

AMERICAN GAS ASSOCIATION MONTHLY

**All Roads at Century of Progress Exposition
Lead to Gas Industry Hall**

CHARLES W. PERSON

**Large Volume
Water Heating
As Summer Load**

H. J. LONG

**New Englanders Active
In Association Work
Sixty-Two Years**

CLARK BELDEN

**Stability of Gas
Industry Demonstrated
In South**

ALEXANDER FORWARD

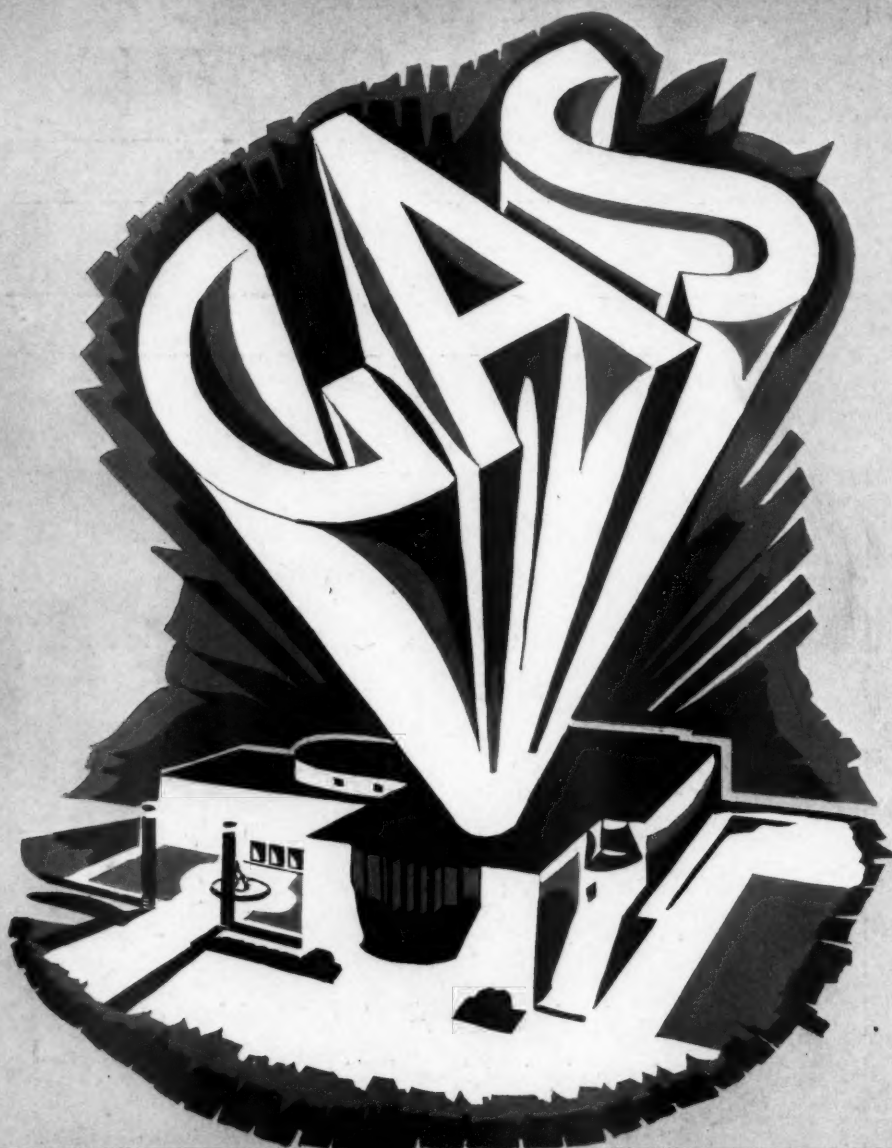
**Use of High B.t.u.
Oil Gas During
A Peak Load**

FRANK WILLS

Air-Cooled Gas Refrigerator Making Sales History



June, 1933



**A CENTURY OF PROGRESS
INTERNATIONAL EXPOSITION**

CHICAGO 1933

**INTERNATIONAL GAS CONFERENCE
& 15TH ANNUAL CONVENTION
AMERICAN GAS ASSOCIATION
SEPTEMBER 25-29, 1933**

AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XV

JUNE, 1933

NUMBER 6

CONTENTS

	PAGE
A Transformation Wrought by Gas Fuel.....	226
CHARLES W. PERSON	
All Roads at Fair Lead to Gas Industry Hall.....	227
CHARLES W. PERSON	
Large Volume Water Heating as Summer Load.....	234
H. J. LONG	
Stability of Gas Industry Demonstrated in South.....	235
ALEXANDER FORWARD	
Steel Enameling in Automatic Gas Furnaces.....	238
J. B. NEALEY	
Use of High B.t.u. Oil Gas During a Peak Load.....	240
FRANK WILLS	
New Englanders Active in Association Work 62 Years.....	242
CLARK BELDEN	
New York Employees Recognized for Heroic Deeds.....	246
Affiliated Association Activities.....	247
Convention Calendar.....	247
Transferring Final Charges vs. Rendering Final Bills.....	250
H. F. HUTCHESON	
Air-Cooled Refrigerator Making Sales History.....	252
Small Automatic Stokers vs. Natural Gas.....	253
CECIL W. SMITH	
What Does Gas Utilization Data Mean to You?.....	255
RALPH L. MANIER	
Adapting Machines to Preparation of Field Orders.....	257
THOMAS J. PERRY	
Monthly Summary of Gas Company Statistics.....	261
Associations Affiliated with A.G.A.....	263
Personnel Service.....	264

The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein.

Published Monthly by the
AMERICAN GAS ASSOCIATION
Publication Office, American Building, Brattleboro, Vt.
Editorial Office, 420 Lexington Ave., New York, N. Y.

Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Subscription Rate \$3.00 a Year



A Transformation Wrought by Gas Fuel

THE Old Village Smithy—and the Modern Gas-Fired Forging Furnace. This twin diorama in the gas industry exhibit shows the contrast between the present-day forge and the old hammer-and-anvil method. Gas heat is pictured doing the job here without a moment's thought or attention, whereas the smithy of yesterday spent much of his time pumping the bellows at his forge.

AMERICAN GAS ASSOCIATION MONTHLY

Allyn B. Tunis, Editor

VOLUME XV

JUNE, 1933

NUMBER 6

All Roads at Fair Lead To Gas Industry Hall



AFTER five years of planning and make-ready, Chicago's Century of Progress Exposition has been opened ahead of schedule and the world is now invited to come and

see what the mind of man has been up to during the last one hundred years.

This is no Fair in the commonly accepted meaning of that word. It is, rather, a vast industrial show of sensational proportions, ultra-modernistic in line and color, and utilizing animation and the latest realistic effects in the portrayal of mankind's advance in the realms of science and industry.

No other exposition the size of this one has ever got beyond the dream stage. This time the promoters have actually made their dreams come true—so true, in fact, that on the Fair grounds today stands every structure that appeared in the architects' conception published three years ago. This is something to crow about, in view of what has been put away in moth balls since the winter of '29.

Awaiting the multitudes at Chicago is a colorful spectacle three and one

By Charles W. Person

half miles long. Occupying the expansive 424 acres of land recovered from Lake Michigan are thirty-two exhibit buildings and pavilions, many of them two stories high. Inside these buildings are eighty-two miles of corridors leading to the biggest eye-full of exhibits and displays that mortal man has ever beheld. It can truly be said that "to the brave belong the fair," for only the brave will live to boast of "doing" this Fair.

The principal exhibits of the gas industry are located in the Home and Industrial Arts Group, situated midway in the grounds. This group includes Gas Industry Hall, which contains exhibits graphically portraying the rise, progress and present status of the gas industry; Home Planning Hall, the name of which tells what its 47,000 feet of exhibit space are used for, and nine model homes demonstrating the very latest in home design, construction and equipment.

Approaching the forecourt to Gas Industry Hall, the visitor's attention is directed to a unique Fountain of Flame symbolizing the service rendered by gas through the medium of heat.

The fountain appears as a tall pilaster-like structure about twelve feet in

height, which glows with various luminous colors among which is one resembling red hot iron suggestive of the large part that heat developed from gas is playing in the industrial and metallurgical industries. Across the top of the structure is seen the word "GAS" silhouetted against a jet of a luminous gas flame symbolizing the service being rendered by natural and manufactured gases in modern civilization.

At the top of a fluted column to the left appears the year "1817" in block letters, designating the year in which the gas industry of the United States was born and at the top of a similar column to the right is seen "1933," symbolic of the 116th year of the gas business in this country. These fluted columns glow with various spectral colors while in the concave central niche of the fountain a large luminous flame is shown. At the base of this flame a jet of colored and luminescent water bubbles forth and cascades into lower pools. The Fountain of Flame presents very striking effects, made possible only through the use of special materials and lighting devices.

Passing around the fountain, the visitor enters Gas Industry Hall, a building about 110 feet long, 100 feet wide and some 30 feet high in the

central section. The first sight to greet the eye is the large and impressive exhibit of the Electrolux gas refrigerator in all its varied types and forms.

Glancing back and above the main entrance to a height of twenty-five feet appears a large mural covering an area of several hundred square feet, which, in keeping with the philosophy and main theme of A Century of Progress Exposition, depicts the part that science, research, experiment and invention have played in the progress of the gas industry during the past century or so. An allegorical figure representing the gas industry may be seen mounting the steps of progress marked by science, achievement and invention.

Turning to the left, there appears a succession of three sets of dioramas, or three dimension pictures in perspective, illustrating early or historical scenes and modern or up-to-date ones in certain fields of gas utilization.

The first diorama shows an old fur-

nace in the basement of a home and the associated disorder and untidiness due to the type of fuel used. Contrasted with this is seen a modern basement with up-to-date gas-fired central house heating equipment in the background of a playroom fitted up as an attractive den or cabin aboard a ship.

The second diorama shows an old-fashioned kitchen contrasted with one which is ultra modern and of course equipped with the latest gas-fired cooking and refrigerating appliances.

The third diorama presents a scene in the old village "smithy," and adjacent thereto is a modern factory with its gas-fired forging furnace and forge.

Above each of these three dioramas are large mural or wall paintings in attractive colors. These depict historical events or steps in arts or culture of the human race with respect to heating homes, cooking food and forging metals.

The visitor has now reached the southeast corner of Gas Industry Hall where he obtains a full view of the main feature of the Gas Industry Exhibit. Here, through the medium of a large-scale model covering in all a length of about 100 feet, the production, distribution and utilization of natural and manufactured gases are impressively shown.

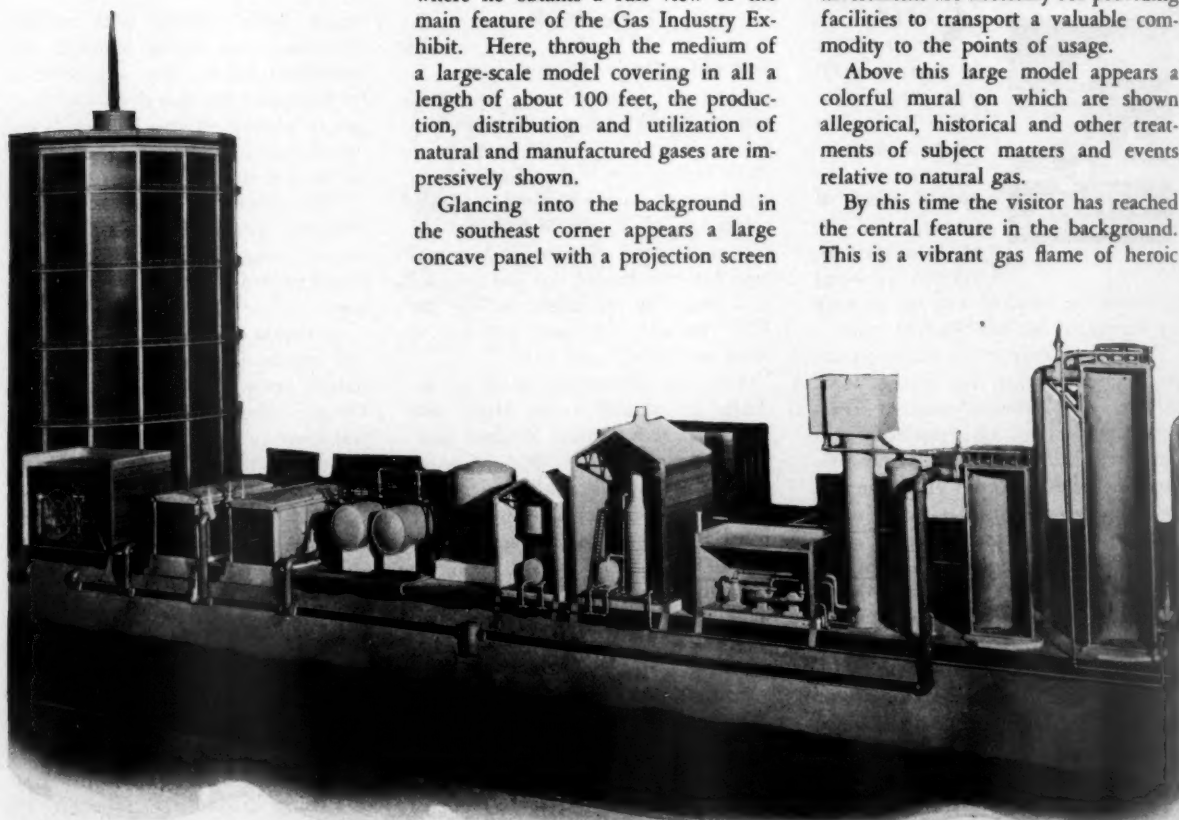
Glancing into the background in the southeast corner appears a large concave panel with a projection screen

in its lower section on which scenes relating to natural gas and related subjects are being continuously thrown, while in the foreground, a cross section of the earth and geological strata is shown with coal, petroleum and natural gas, the basic materials or resources of the gas industry. On the front facia, the geological strata is to be seen. Through the medium of animation by light, the flow of natural gas through the gas sands to the foot of the well and the flow of this gas up the well tubing to the surface of the earth is dramatically presented.

Just below the eye level is a large-scale model of a typical landscape on which are shown, more or less in cross section, the various pieces of equipment and the different operations involved in the production, treatment and distribution of natural gas over long distances to metropolitan or other markets. The scene is one suggesting long and attractive vistas in perspective, emphasizing the fact that large investments are necessary for providing facilities to transport a valuable commodity to the points of usage.

Above this large model appears a colorful mural on which are shown allegorical, historical and other treatments of subject matters and events relative to natural gas.

By this time the visitor has reached the central feature in the background. This is a vibrant gas flame of heroic



The Story of Gas Production is told by animated models in cross-section at the World's Fair. The two pictures show the manufactured gas plant in miniature. Every detail of gas manufacture is shown by animation in this cut-away model. A companion model illustrates the

size, through which, at intervals, may be seen a dynamic Gas Genii, symbolic of the magic that has been wrought in convenience and diversity of service rendered by the gas flame for over one hundred years.

Spread before the symbolic flame is a large smokeless city of the future, to which gas is being supplied for every imaginable use through a distribution system shown through the medium of animated light action appearing in the facia or section of the earth strata or soil which nearly surrounds the model city with its dynamic lighting effects.

Ahead and to the right of the central model city and gas flame feature appear interesting large scale models of a modern coke oven gas and a carburetted water gas plant. Essential parts of the buildings and various pieces of equipment in which gases are manufactured and treated may be seen in section, and the movement of the gases through the plants and underground mains toward a waterless gas holder located near the central model city feature may be noted by the animated lighting effects.

Glancing backward toward the model city, the visitor sees a gas holder. Through its translucent walls the piston is seen slowly riding up and down as the holder takes in or delivers gas.

These plant models show how gas is made and distributed, and also bring home to the public and the uninitiated the fact that the production and manufacture of gas requires a costly investment in materials and in plant equipment, machinery, buildings, underground piping, etc., and necessitates complicated operations and processes in order to provide the customer with a refined and perfect fuel.

As he passes along, the visitor also sees actual samples of the natural and refined resources used in the production or manufacture of gases and of various products and by-products, all attractively displayed in front of the various models.

Before leaving the manufactured gas plant models, there is seen above and in the background, a large mural (similar in shape and treatment to that behind and above the natural gas model) depicting allegorically and historically subject matters relevant to the manufacture of gases.

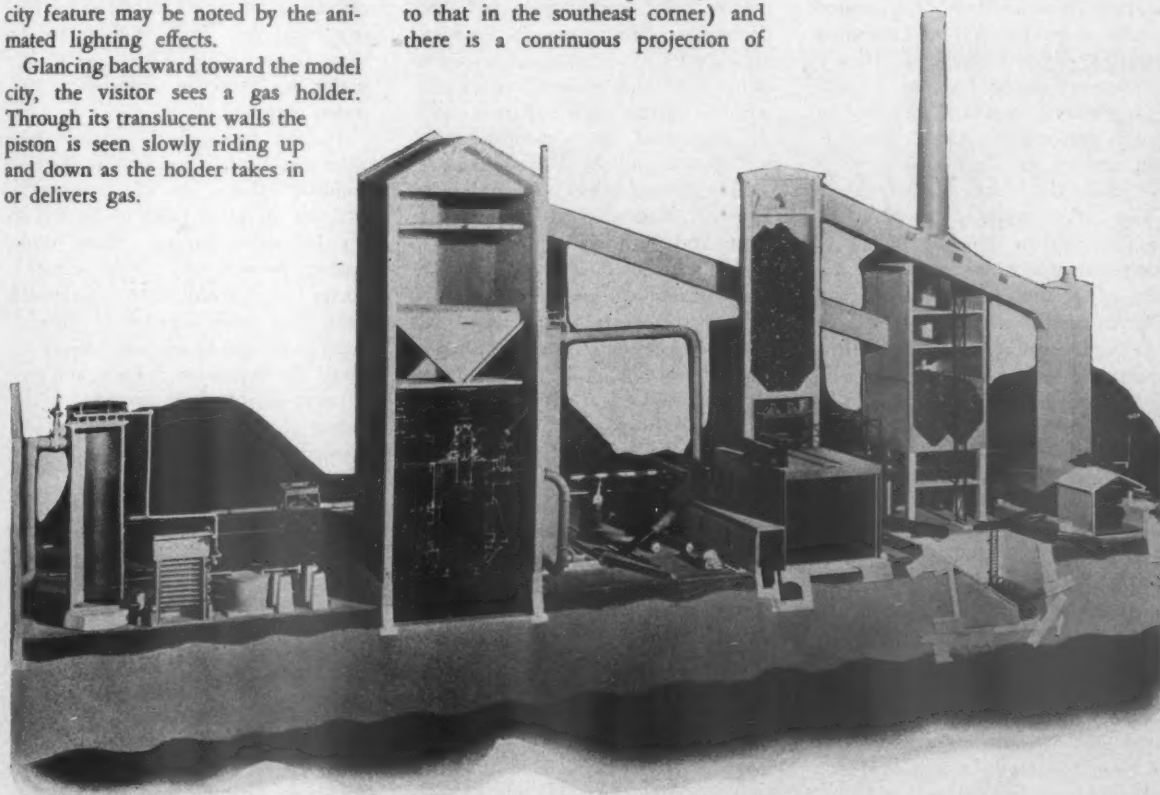
In the southwest corner a screen is situated in a concave panel (similar to that in the southeast corner) and there is a continuous projection of

scenes having to do with manufactured gases and associated subjects.

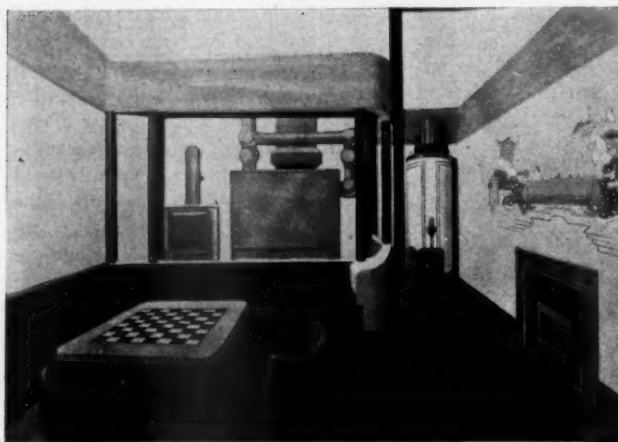
Turning the corner and starting north along the west wall of Gas Industry Hall, one sees a display of apparatus and equipment in actual automatic operation, and frequently used by operating utilities to control the quality of the product and service rendered to their customers. A close observation reveals a recording calorimeter and specific gravity apparatus in operation and other delicate apparatus used for checking these and for determining the composition of the finished product, gas.

Next to this are some actual demonstrations of gas flames in action—a "live" demonstration of the diversity and flexibility of use of so-called city gases.

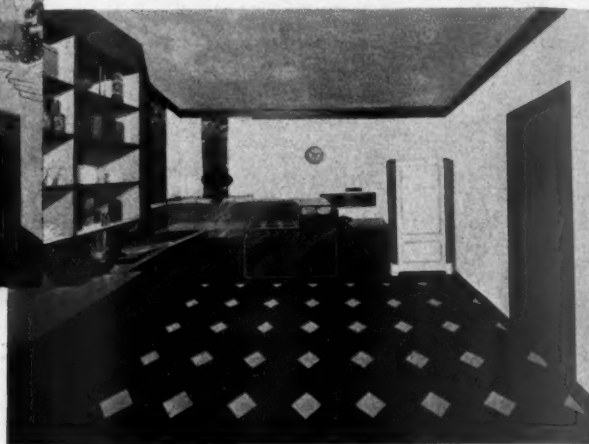
Passing on, the visitor is confronted by a large model of the American Gas Association Testing Laboratory building and accessory facilities located at



piping and transmission of natural gas from the well to the user. Behind the models will be shown the contributions made by the two forms of gas to the elimination of smoke, thereby producing a "Smokeless City." As shown here, the models are incomplete



Above—This modern basement is a recreation center. This picture shows one of the three-dimensional dioramas in the A.G.A. Exhibit in Gas Industry Hall at the World's Fair



Below—Gas keeps the food fresh, cooks it and disposes of the waste by incineration in this 1933 kitchen, shown in diorama form in the gas industry exhibit at Chicago

Cleveland. Raising his eyes above the model of the laboratory building, he sees a huge mural, covering many hundreds of square feet. Reproduced in color on this mural is the Laboratory Seal of Approval and radiating from it are scenes of various research and testing operations by which a control of the safe performance, durable construction, etc., of gas appliances is being assured for the benefit of the public.

Just before reaching the doors in the west wall of the hall, there is a continuous appearance, every few seconds, of the description of a new and different use for gas.

Drawing away from this part of the exhibit the visitor is impressed with the great diversity and flexibility to be found in the utilization of gas, when, glancing upward above the doorway, there is revealed for him the impressive growth of the combined natural and manufactured gas industry. The United States appears in outline as a frame to the title, "A Century of Progress in the Gas Industry," while below is depicted a series of gas flames, painted in color on the mural, representing by their relative sizes the estimated volumes of natural and manufactured gases produced and delivered to customers in the United States by ten-year periods from 1832 to 1932 inclusive.

Moving northward one reaches a fine vantage point from which to view

an attractive two-story residence extending for about 30 feet along the west wall. This home appears in attractive color combinations and three dimensions with appropriate landscaping of trees, vines, grass, etc., contributing to the simulation of naturalness, which is further enhanced by the blue sky and cloud effects painted on the wall behind and above the cottage.

Five dimensional cut-outs indicating kitchen, basement, laundry, living room and bathroom are utilized to show the major domestic uses of gas. They are lighted, one by one, following a cycle correlating each to its source of gas supply—the bathroom to water heater, the living room to house heating boiler, etc. All of the scenes of attractive interior settings concerned with the use of gas in the various parts of the home serve to establish in the visitor's mind the automatic character and general convenience of the use of gas in the modern home.

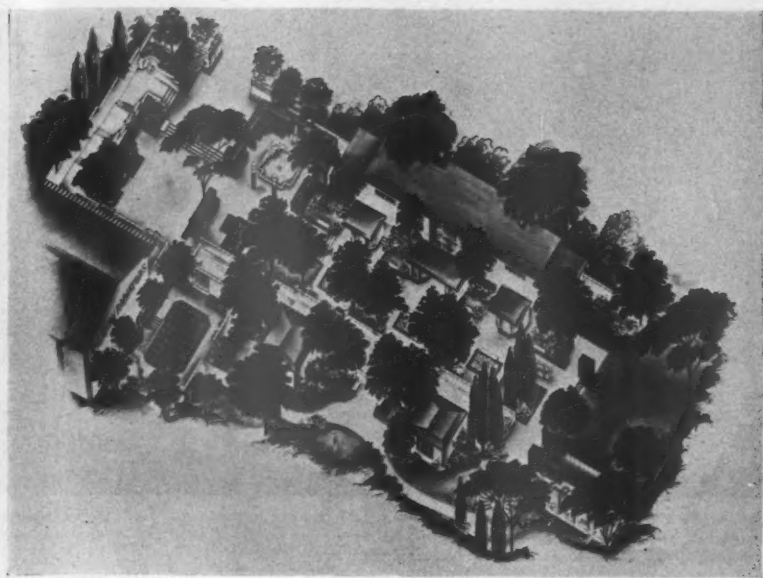
Crossing back to the east wall of Gas Industry Hall one sees a factory section in which are reproduced ample interior views of some 14 industrial plant operations involving the utilization of gas. Above the picture of the factory district there is a huge thermometer-like instrument on the wall, with temperature ranges from 212° F. to 3000° F. Simultaneous with each flashing of the proper color and tem-

perature range on the thermometer, there comes to life a three-dimensional cut-out type of diorama (realistically colored and lighted) in one of the factory buildings. Each of these depicts some important industrial use of gas under the respective temperature condition indicated.

Having reviewed the various features and displays constituting the Gas Industry exhibit, the visitor enters a spacious reception room to the left of the industrial display. Here, while resting, he may see colored transparencies of considerable educational value and other subjects of interest. Attendants will be on hand during all hours the Exposition is open, and registration facilities are provided. The names of those registered will be forwarded promptly to local companies for personal follow-up.

Artificial weather-making plants for homes and the largest of buildings featuring gas air conditioners which furnish summer cooling as well as winter heating, constitute one of the outstanding attractions of the extensive display of the American Radiator and Standard Sanitary Corporation.

These achievements of the engineers and scientists of the parent corporation and its subsidiaries, including the American Gas Products Corporation, are presented to the public in a luxurious "Garden of Comfort" in which is



Artist's conception of the "Garden of Comfort," American Radiator and Standard Sanitary Corporation display at Chicago. American Gas Products Corporation occupies a prominent space in the building on the left

located the "Home of Artificial Weather."

According to Rolland J. Hamilton, president of American Radiator Company, the indoor weather making products shown at Chicago render a service that goes far beyond the popular conception of air conditioning. As a matter of fact, air conditioning is only a small part of the sum total.

"What we are really demonstrating" says Mr. Hamilton, "is the ability to control indoor weather, to make people independent of outside temperatures, to eliminate dust and dirt, to do away with drafts and to keep out noise. In short, to attain an independence of nature's hardships and the constant threat those hardships represent to our happiness, our health and our very existence—an independence that will mark the dawn of a new type of civilization—truly the age of comfort."

Several developments described as being of a revolutionary nature are presented. One is a refrigerating machine which is used with the gas operated indoor weather manufacturing plant. It is known as a Decalorator, and uses steam for cooling. An American Gas Products Corporation Ideal Gas Boiler is used to produce the steam for summer cooling, as well as the hot water needed for winter heating.

The gas boiler and the steam refrigeration unit are part of a plant which

also purifies the air, humidifies in winter, dehumidifies in summer and circulates the air the year around. The design of this system is such that it can be made in sizes for homes as well as for the largest of office buildings and for industrial plants.

It was perfected by engineers of American Blower Corporation, Detroit, Michigan, subsidiary, but promotion and sale of it as a gas-fired conditioner will be handled by the American Gas Products Corporation.

Also exhibited is a gas-fired air conditioner for home use exclusively. It makes use of tap or mechanically refrigerated water for summer cooling, circulating the cooled water through copper-finned elements through which the air to be cooled is forced. The same elements are used for winter heating by using hot instead of chilled water. This plant will be marketed through utility companies by the American Gas Products Corporation.

In addition to the complete weather manufacturing plants for homes and buildings, American Radiator and



E. B. Jeffries, engineer, shows two fair and early visitors at the Century of Progress, the new American Gas Products Corporation gas boiler that cools as well as heats.



A feature of the Johns-Manville exhibit is a huge mural, painted on asbestos transite. It is ninety feet long and twenty feet high, the work of Leo Katz. The theme of this mural is that mankind, having learned how to call forth nature in the forms of heat and cold, sound and motion, now needs the "light" to guide him in their proper use.

Standard Sanitary Corporation and its subsidiaries are presenting equipment which can be added to heating systems now in use so that these installations can be utilized for summer cooling as well as winter heating, and for circulating tempered, clean air through the year.

One of the new weather-making plants is in operation in one of two buildings in the "Garden of Comfort." It is partially housed in glass and visitors may see the warm and humid air of the exposition grounds being transformed into exhilarating mountain-like atmosphere.

The "Garden of Comfort" is a cool, shady oasis of tall trees, beautiful flowers, shrubbery, fine statuary, a brilliant reflecting pool and restful surroundings. It was designed by Raymond Hood, famous architect. The garden stretches between two buildings, one of which includes the new air-conditioning creations of the corporation, and the other a display of the bathroom and plumbing products of other subsidiary companies.

Products of American Gas Products Corporation play a leading part in the exhibit in the "Home of Artificial Weather," or the American Radiator Building. In addition to the weather-making equipment, there is featured a new 20-gallon water heater. It is square in shape, follows modernistic lines, and in other ways deviates from the customary type of water heater.

Other product innovations shown by American Gas Products at the Fair include an AGP Ideal Gas Convertor and a new throttling control valve. A representative line of gas boilers and water heaters make up the remainder of the gas exhibit.

"Cook with Gas" is the theme of the Pyrofax exhibit in the elaborate display of Union Carbide and Carbon Corporation on the ground floor of the Hall of Science.

The display consists of a complete stage set and shows a rural dwelling in which Pyrofax has been installed. Outside the house stands the familiar Pyrofax cabinet and a service man is installing a cylinder. The wall of the kitchen is cut away to disclose the housewife cooking on a modern gas range even though she lives miles from the nearest gas plant.

The figures are animated. As the housewife turns the gas cock a neon tube leading from the cabinet outside the house to the range in the kitchen indicates the flow of gas and the typical blue gas flame results at the burner. Thus at a glance the visitor sees how simple and easy it is to have gas convenience in a gasless home.

Above the stage set is a large transparency indicating the same kitchen but with a coal stove in place of the gas range. The Electrolux refrigerator is replaced with an old style ice box. The Pyrofax Service man is replaced by a farmer chopping wood.

A lighting cycle completes the story. In the beginning the transparency is brilliantly illuminated, showing the scene familiar to many rural dwellers. As it fades out the transformation of the kitchen is indicated by the proper lighting up of the stage. A sound story accompanies the cycle to make clear just what is taking place.

Directly across the aisle from the Pyrofax exhibit is the "Vinylite House" whose interior is made almost completely through the use of synthetic chemicals. This small home is also served with Pyrofax. A standard cabinet is used and gas is piped to a modern gas range and gas refrigerator in the kitchen.

The special exhibit building of the Johns-Manville Corporation designed by Ely Jacques Kahn, noted architect, houses one of the largest murals painted in modern times. The building is in the form of a semi-circle 90 feet in diameter, 30 feet high, and is built entirely of transite. Insulation four inches thick is included in walls and ceiling, and the interior is treated with sound absorbing materials. One of the largest ventilating plants at the Fair changes all air in the building every two minutes.

The mural painting which is a dominating feature of the building is 90 feet long and 20 feet high. In it are depicted the company's four "controls" in the fields of heat and cold, motion, fire and weather, and sound. So that

they will in no way interfere with the mural, two exhibits of Johns-Manville materials for use in home modernization and industry are contained in internally lighted cabinets. In one a clever arrangement of movable walls enables visitors to actually hear the difference when a sound of fixed intensity is made in the same office with and without acoustical treatment.

Use of gas fuel on the Exposition grounds has continued to expand to the point where it has been remarked that except for the lighting facilities and building materials, the Fair couldn't operate without gas service. This is a fact substantiated in part by the following representative installations which constitute merely a few of the total number of applications:

Victor Vienna Cafe—This is entirely a gas job including exit lights, Humphrey unit heaters for heating the building, all-gas kitchen equipment and three Ruud instantaneous heaters. The cafe is an exact copy of a Vienna restaurant with a garden surrounding it, and reflects a genuine Vienna atmosphere.

General Motors Building—Here one can order a car of any type and then follow it from the outside on a promenade as it goes through the different stages of assembly and in a few hours get delivery of the car. Gas provides the hot water and steam requirements.

Streets of Paris—An exact duplication of the Cafe de la Paix will be a feature of this concession. Everything is gas, with the exception of the lighting, including steam tables, cooking equipment, water heating, and the heating of the cafe, which is done with two Humphrey units. The water is heated by two Ruud instantaneous units.

Ann Rutledge Inn—This is a high-class restaurant located in the Lincoln group. The restaurant itself represents the kitchen of Lincoln's first home in Illinois. This is an all-gas job.



This A. G. A. diorama shows heat treating with gas at 3,000 degrees. It depicts high-temperature furnaces in which steel is given a super-hardness to resist wear. This is one of fourteen industrial scenes which illustrate the wide range of temperatures which gas heat makes available to industry

Duke Mills Freak Show—There are 80 freaks in this Mid Way attraction, and they are fed, washed, and made comfortable by gas fuel. The water heater is a Ruud No. 4.

Edward's Rancho—This is an exact duplication of a Mexican rancho, where barbecued meats are featured. Everything is gas, except the fuel for cooking, and for that purpose wood is used exclusively for the barbecuing of meats.

Fisher's Restaurant—This comprises a club house and restaurant. Gas is used for all purposes except lighting.

Italian Village—The building, the restaurant and the various concessions are gas serviced throughout. Italian foods are featured and the Italian Government makes its headquarters here.

Baby Incubator Hospital—This is owned and operated by the Chicago Lying-In Hospital, famous the world over for their success with incubators. The building itself, the incubators, feeding facilities and other equipment make use of gas to the fullest extent. It is also stated that Dr. M. A. Couney, the baby incubator specialist, who is famous for his incubators exhibited at

Coney Island and Atlantic City, will put on his show at the Fair.

Kraft-Phoenix Cheese Company—This company has an elaborate display in the Agricultural Building, using gas for heating and Ruud equipment for supplying hot water.

H. J. Heinz 57 Varieties—This is next to the Kraft display. Gas is used for space heating and water heating.

Atlas Brewing Company—This display is also located in the Agricultural Building and gas is used for space heating and water heating. An animated display will show how beer is made.

Hazel Thorud Restaurant—Here Swedish food is served exclusively. Gas fuel is used throughout.

Dowdy Doughnuts Corporation—Ten stands serve doughnuts, turned out by a machine utilizing electricity, but gas is used for water heating, for brewing coffee, and other purposes.

Firestone Tire Exhibit—One of the largest "live" displays on the grounds, showing the actual manufacture of automobile tires. Gas-fired boilers of the Steam and Combustion Company provide the steam for vulcanizing.



A mural in the exhibit of the Petroleum Heat & Power Company, General Exhibits Building

Large Volume Water Heating As Summer Load

By H. J. Long*

President, The Kompak Company

MUCH has been written and many papers discussed during the past few years on the subject of large volume water heating, not that heating large volumes of water with gas is particularly new, for millions of cubic feet of gas are consumed yearly in present installations, but the subject has aroused particular interest since the advent of gas house heating, from the standpoint of a summer load.

Large volume water heating may be divided into two general classes,—first, year 'round or semi-yearly use, on the regular gas rate. Second, summer water heating only, at a special rate, used solely to fill in the summer valley in the load curve. The first can be considered a strictly merchandising problem, the second must be considered from an entirely different and promotional angle.

In giving thought to this tremendously important subject, the gas executive should not be guided by the conditions which have existed for the past two years, but rather look forward to the future. Now that the depression has ended, and we are starting up the ladder, we must plan to again place gas in its non-competitive class as the cleanest, finest fuel that money can buy. Surely gas house heating is not permanently doomed just because the public have not had the income for two years, to use the fuel that they would prefer. With the return of better times gas can be sold where today the people are unable to afford it.

Throughout the eastern part of the United States hard coal is in universal use for house heating, al-

In his discussion of Large Volume Water Heating, Mr. Long emphasizes the need in the gas industry for wide general publicity to break down the resistance of architects and builders toward gas for large buildings. The author believes that proper advertising can eliminate the view of many who consider that gas is merely a luxury for the home. This is believed to be one of the first utterances about the importance of advertising for large volume water heating sales. Expressions from readers will be welcomed.—Ed.

though soft coal could be used at a much lower yearly cost, the public will not even consider it, due to the dirt. Surely gas is as much cleaner and finer than hard coal, as hard coal is better than soft coal and worth the additional cost.

In every community there are hundreds of installations for commercial or large volume water heating, where the advantage of gas over other fuel is sufficiently great to justify its use at prevailing rates. It is ridiculous to attempt to compete on a strictly price basis. However, equipment must be used which renders the highest possible efficiency, as the gas B.t.u. are too expensive to be wasted. This means an efficient, trained sales force, capable of selling high-priced efficient equipment.

To secure large volume water heating, all departments must be coordinated to secure the desired results. In too many cases a new gas rate has been put into effect with but meager results. Of what use is a special rate if the prospective user does not know about it, or is not properly financed to secure the equipment. Broadly, there are four important factors which are absolutely necessary to secure this business:

Rates.—Quite naturally, rates both for year 'round or for special summer water heating must be based on the type of service furnished and on the value of the load to the company. There must be a fair comparison between the cost of gas water heating and competitive fuels, but rate is in itself only a part of a general plan.

Advertising.—Wide general publicity is badly needed in our industry to change the public viewpoint. The architect, the builders, the building operator rarely gives a thought to gas for large building use, usually considering gas only from the standpoint of a luxury for the home. Proper publicity can change this viewpoint, and until it is done, wide general acceptance of gas is out of the question.

Sales organization.—A vigorous aggressive year 'round effort to supplement the advertising and to contact the prospects is even more necessary than the rate. A hundred-candle power light hid behind the shrubbery cannot compare with a twenty-candle power light exposed in the house top. You must constantly tell the people how much finer gas is for heating water than any other fuel and only high-grade man-power can perform this service. Engineering

(Continued on page 262)

* Member—Large Volume Water Heating Committee—Industrial Gas Section.

Stability of Gas Industry Demonstrated in South*

MEMBERS of the Southern Gas Association have been kept informed through *Southern Gas Association Progress* of the statistical position of the gas business in the Southern States.

Perhaps the most striking indication of the stability of the companies operating in your territory is the remarkable manner in which you have held and retained your customers. While the industry in the nation at large, both manufactured and natural gas, had a loss of some 480,000 customers during 1932, amounting to 3 per cent of the total, your companies have come through the year with no appreciable loss in customers served. It is true that in common with most other sections of the nation there was a loss in sales and revenue per customer, but as has been indicated your territory has fared somewhat better than the nation at large. While revenues of the entire industry declined 6.6 per cent during 1932 the loss for companies operating in this area was somewhat less, amounting to only 6.2 per cent. Both nationally and regionally the gas business, by comparison with other major industries, presents a striking record of stability. Stability is what I have been asked to talk about.

There are many ways in which the public utility industry contributes vitally to the stability of the factors that make up the fabric of our social and economic structure.

Utilities Show Stability

It is a great stabilizer of employment. One has but to note the impressively large lists of men and women who have been employed by a single company for twenty-five years, thirty-five years, fifty years, and more, to realize how continuity of acceptable service reasonably assures continuity of employment. With us there is less drifting about from job-to-job, there

By Alexander Forward

Managing Director, American Gas Association

is more significant and important concentration of knowledge about the company's business and its customers' needs, there is more satisfactory development of personal relations and of the *esprit de corps* that comes from long intimate association and effort in a common cause.

The utility companies, during the past three and a half years of increasingly unfavorable economic conditions have demonstrated more than ever this stability of employment. Exact statistics are not available but from all we know of the situation it is probable that no other major industry can show such a small proportion of former employees now out of jobs as the public utilities. It is a fact that there are a number of companies which have had no layoffs at any time, except in the construction forces, and while most of them have been obliged to curtail hours and to suspend the filling of any vacancies that have occurred, the record as it stands is remarkable.

Again, while wage and salary reductions have been quite general throughout the public utilities, these enterprises have, generally speaking, been able to confine the reductions within the limits indicated by reductions in the cost of living.

Just as in boom times when the entire nation was indulging in an economic jag, the public utilities were not permitted to increase their rates, except to a very moderate degree and in most cases not at all, just so their officers and employees for the most part did not share in steadily increasing wage schedules. The temptation in those days to public utility workers to go into other fields of endeavor where the financial rewards were greater, was quite severe and it is to the credit of the great body of utility employees that they stood by their in-

dustry and preferred stability to the temptations of the market place. Certainly they now deserve a very large degree of certainty in their positions and of a reasonable limit upon the sacrifices they make in reduction of their compensation.

Utilities Prove Patriotism

For a considerable part of the depression period the utilities maintained a large amount of stability in construction and maintenance. Immediately after the stock market debacle of October and November, 1929, the President of the United States called the executives of industrial life into a series of conferences urging upon them to not only maintain but enlarge their programs of construction and extensions and to carry on a complete schedule of maintenance. The public utilities loyally cooperated with the President to such an extent that they actually anticipated a substantial amount of extensions and construction, a large part of which is not now needed under existing economic conditions in the public service.

In retrospect, or in a more familiar term, with hindsight, there may be considerable doubt about the wisdom of that policy. Perhaps as we see it now, it would have been better to let nature take its course and to undertake such extensions and enlargements of our plants and equipment as were indicated by the business in sight. Such a course would probably have made for more stability and continuity of business with our manufacturers of apparatus, equipment and even of appliances. In other words, our manufacturers might now have some business which they got in 1930.

At all events our cooperation with the President's plan, with which we were all in agreement at the time, was complete and sincere. The gas industry realized during 1930, 96 per cent of the estimates given to President Hoover at the conference while

* Digest of Address before the Southern Gas Association at Washington, D. C., May 2, 1933.

the electric industry realized 84 per cent.

It is scarcely necessary to add on this point that the continuity of employment and the relative steadiness of the wage schedules have tended very strongly, and have been a very great help, towards stabilization of the buying power of the public. Our employees constitute a substantial portion of those who buy the necessities and the comforts of life. The nation is now suffering from lack of buying power and any industry that helps to sustain that power is contributing to economic stabilization.

A Proud Record

I do not propose to contribute to further use or misuse of that much abused word "service." It seems necessary, however, to bring it in because to my knowledge there is no other word in the English language which so well expresses my point. That point is that the public utilities, by and large, have been able, through a difficult period, to continue an almost faultless degree of service to the American people. They get their fuel and their lights and their power and their local and long-distance talking facilities and their transportation about as satisfactorily as ever and at a cost relatively less than any of the other necessities or comforts of life. To a very significant degree utilities have maintained stabilization of the essential services to mankind.

Of the manner in which these conditions to which I have referred have contributed to stabilize the minds of the normal lives of so many people, not only of our employees and their families, but of the public we serve, need scarcely be mentioned.

The service we render has, we may fairly say, been impaired only when, through agitation and as a result of ill advised action by those who have the power to make rates, the earnings of our companies have been reduced below the point where it is possible to properly maintain these vital, these essential elements of our time.

One must approach the subject of returns upon invested capital with mixed feelings. There have been too many cases in which dividends have

been reduced or eliminated. We must all agree that in some instances the issuance of securities in which large amounts of capital was invested was never warranted. In other cases serious impairment of the investment has been witnessed as the result of excessive enthusiasm. In some instances even the interest on bonded indebtedness is in default.

On the other hand we have every reason to point with pride to the fact that only fifteen operating gas companies in the United States are at this time in receivership, and their revenues comprise less than 1 per cent of the revenues of the entire industry.

Of course no one of us here present will ever see the time when the agitator and the demagogue will not depict a public utility as a horrible monster going about seeking whom it may devour and attempt to leave the impression that it is some sort of impersonal force feeding upon the helpless citizenry. As a matter of fact, the owners of our public utilities are Mr. and Mrs. John Smith, who live next door, and Mr. and Mrs. Robert Jones, just across the street, and the man from whom we buy our groceries and the man to whom we sell our goods or our services. They have invested their savings or their inheritances in our securities and it contributes immensely to what economic stability the country now has that for the most part those who have made these investments are still realizing an income therefrom as a just reward for their forethought and their sacrifice.

More Stabilized Industries Need of the Hour

Everybody knows what the country really needs. Since I have the floor at the moment and am privileged to exploit my own views, I want to say that what this country needs is a great many more industries in addition to the utilities in position to stabilize their employees, their wage schedules and the payment of interest upon their bonded indebtedness and a reasonable return upon the money invested in their enterprises. There would not be anything wrong with this country if that were the case.

Just how that may be worked out

I will leave to the individual views of the members of this audience. The National administration, aided by the Congress, is making sincere efforts along these lines. I appreciate the difficulties involved in control of agricultural and industrial output, coupled with the exercise of the individual initiative and enterprise which developed our country, yet we ought to have accumulated intelligence enough to do it and somehow I believe that it is going to be done.

It is true that many things will not be again as they were before the World War or for some years afterward and we need not expect a return of those conditions.

"Easy Marks" for Taxmakers

The public utilities contribute immeasurably to the stability of community life. A very important factor in this contribution lies in the taxes assessed upon our business. The trouble about it is that we are too easy marks for increased taxes. It is simple enough for the taxing power to increase the levies upon utility properties and income and then boast that they have made the utilities pay. It is no easy task to educate the average citizen to the fact that he pays these taxes himself through the rates charged for the public services, which have no other means of obtaining money with which to pay the tax. A very large part of the income of all government is now obtained from this source and they would be badly off indeed without its stabilizing influence.

One of the funniest things to be seen occasionally in the press is a statement about the happy situation of the citizens of some town or other whose entire expense of government is defrayed from the profits of municipal operation of public utilities. Investigation reveals the fact that in most instances the taxless town does not exist in fact and that the press agency was wrong. But when and if such a condition does exist, it must be manifest that the municipally operated utility gets its money from somewhere and that means it gets it from Mr. and Mrs. John Smith and Mr. and Mrs. Robert Jones for their gas fuel and

their electric lights and the other things for which they pay the rates. The municipal utility, like all others, must have a graduated scale by which the larger consumers get a lower rate, otherwise power consumers would erect their own generating plants and larger gas consumers would use coal or other fuel. It all comes to the same thing in the end, that Mr. Consumer through the rates pays the tax whether he gets a tax bill or not.

Again, the public utilities make notable contributions toward the stability of community life by the amounts they are called upon to pay and do gladly pay toward the maintenance of good causes. They are expected to contribute to unemployment relief funds, to community chests, charities of many sorts and to public-spirited organizations and service clubs of every conceivable kind. They do so contribute, and far more than a reasonable share. Without this source upon which to draw, these enterprises would inevitably be very much handicapped.

Fine Safety Record

The utilities have been able, by means of their intelligently conceived and efficiently conducted efforts toward accident prevention, to contribute largely to the stabilization of and improvement in the public safety. Their contributions in this direction have always been noteworthy and outstanding. Marvelous records in the matter of lost time accidents among the employees of public utilities have been made especially within the last year or two. In the larger cities at least they are expected to be on hand when any trouble occurs and many a human life, threatened from a cause entirely outside of the utility business, is saved by the activities of their rescue crews.

For example, while in 1929 there were thirty-two lost time accidents per million hours worked among employees of the manufactured gas industry in the United States, in 1932 this figure had fallen to twelve, or a reduction within three years of almost two-thirds in accidents in proportion to the number of hours worked. At the same time the number of lost time accidents per 100 employees of manufactured gas companies fell from eight

in 1929 to only 2.8 in 1932. The record of the natural gas companies in this respect is equally impressive, as for these companies the number of lost time accidents per million hours worked fell from twenty-five in 1929 to twelve in 1932 while the number of lost time accidents per 100 employees dropped from 6.4 to only 2.9 in 1932.

It seems too bad that our very stability makes us the target for those who have their own axes to grind in the way of political advancement, in the way of employment for attacks on public utility rates, and generally a place in the limelight. The effort is being made in many quarters all the time to stir up feeling on the part of those whose situation at this time is relatively unfavorable, by pointing out that utility costs have not come down in proportion to other costs of living. They never went up in anything like the proportion other costs of living went up, and their part of the cost of living is so small that a reduction in their rates which would be even felt by the average consumer would be sufficient to irreparably impair the service to their customers, cause a further large amount of unemployment and

curtailment of buying power and bring suffering to those who have invested in their securities. In other words, the agitator seeks to destabilize what there is left of economic stability in this country. Fortunately, the average citizen still keeps a reasonable control over his head.

It has been our duty to keep in touch during the past months with legislation proposed in more than forty of the State legislatures which have been in session in this period. Perhaps never before have so many bills been offered seeking to limit the earnings, bring about oppressive forms of regulation, and in every conceivable and contrivable way to embarrass and attack the public services, as during this period. Yet, as these legislatures have finally adjourned, as most of them have, examination of the bills which have passed and been made into laws shows that surprisingly few of these oppressive measures, devised mainly to make a public record for their proponents, have been approved by the ultimate good sense of the legislatures. Perhaps this means that we can hope we have reached a stabilized position not only in our economic structure but in the mind of the average citizen.

Messrs. Weber and Neilson Elected Vice-Presidents

F. Christopher Weber and B. G. Neilson have been elected vice-presidents of The Brooklyn Union Gas Company, Brooklyn, N. Y. Mr. Weber is vice-president in charge of engineering activities and Mr. Neilson vice-president in charge of commercial activities.

Mr. Weber became associated with the Brooklyn company in 1927, as assistant

vice-president. Prior to that he had been connected with the Cities Service Co. since his graduation, in 1905, from Purdue University with the degree, B.S. in Civil Engineering. Mr. Weber is a former chairman of the Technical Section and has been active in A.G.A. committee work.

Mr. Neilson joined the Brooklyn Union as assistant vice-president on May 1, 1929. Previously he had been secretary and treasurer of Bowring and Co.

E. C. Brown Leaves Rare Pictures Of Executives to A. G. A.

A COLLECTION of rare autographed portraits of leaders in the utility field, both past and present, greets visitors to American Gas Association Headquarters and has proven an object of unusual interest.

Most of the pictures were taken in the late '90's and the first decade of this century. Here will be found likenesses of Frank S. Richardson (1906); F. H. Shelton, Samuel T. Bodine, William Henry White, Charles T. Root, T. J. Hayward (1907); Henry L. Doherty, Professor T. S. C. Lowe (1895); Randal Morgan, J. L. Richards (1908); William H. Bradley (1905); George B. Cortelyou (1909); B. H. Warner, W. E. Barrows, Paul Doty (1906); and F. J. Mayer (1906).

The American Gas Association is indebted to the estate of Ernest Christie Brown, founder and former editor of "Brown's Directory of American Gas Companies" and "The Gas Age-Record," for this gift.

Mr. Brown, who retired about seven years ago, died at the age of seventy-five years, February 26, at his home in Copake, N. Y.

Steel Enameling In Automatic Gas Furnaces

By J. B. Nealey

MECHANIZING the processes of decorating steel products at manufacturing plants where the volume of sales is sufficient to support mass production, grows apace. That of applying enamel and burning or vitrifying it at high temperatures, is one method that lends itself admirably to progressive, straight-line machine production with the furnace converted into a heating machine that is continuous and automatic in operation. All of this is accomplished by grouping the different operations such as dipping, spraying, drying, brushing, burning, etc. about a single overhead loop conveyor which takes the product from one to the other.

Practically all of the plants of the American Stove Company, the world's largest manufacturer of stoves, gas ranges, etc. are thus equipped. One of these automatic units in its New Process-Reliable Division, Cleveland, is herein described. The furnace proper is built of brick, properly stayed and is fired with gas fuel. It is 62 ft. long and $4\frac{1}{2}$ ft. wide with the exception of the hot zone, where the gas burners are located. This zone is 17 ft. long and $10\frac{1}{2}$ ft. wide and one end of it is about $22\frac{1}{2}$ ft. from the charging end of the furnace. This $22\frac{1}{2}$ ft. is known as the preheating zone, for the waste heat from the hot zone flows in this direction and preheats the cold ware coming through.

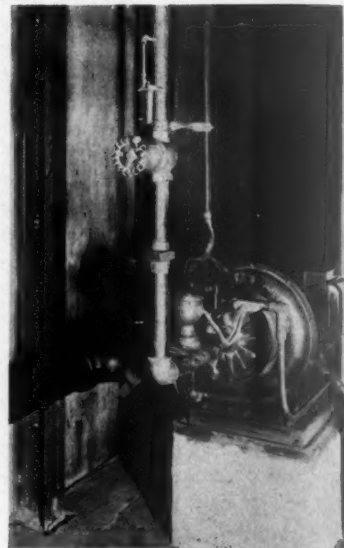
That portion of the furnace beyond the hot zone, which is about 26 ft. in length, is known as the cooling zone and here the ware cools off to a point where it can be handled by operators

as it leaves the furnace. The conveyor consists of a closed chain loop, suspended from supporting steel work, one portion located just above the roof of the furnace and the other side 8 ft. away and parallel to the first. It extends 8 ft. beyond the charging end and 20 ft. beyond the discharge end so as to provide plenty of space for the operators to place and remove the ware from the tools suspended from the chain. There are 64 tools.

Below the hearth level is a tunnel $2\frac{1}{2}$ ft. square which extends the entire length of the hot and preheating zones, beginning at the cooling zone. This furnace is of the full muffle type, two muffles of carborundum slabs, one foot wide and two feet high, being located on each side of the furnace chamber, and extending the length of the heating zone. The gas burners fire directly into these muffles and the heat flows down into the tunnel where it heats the hearth of both the hot and preheating zones. The waste products of combustion are finally exhausted at the far end of the preheating zone through a stack located close to the charging end of the furnace.

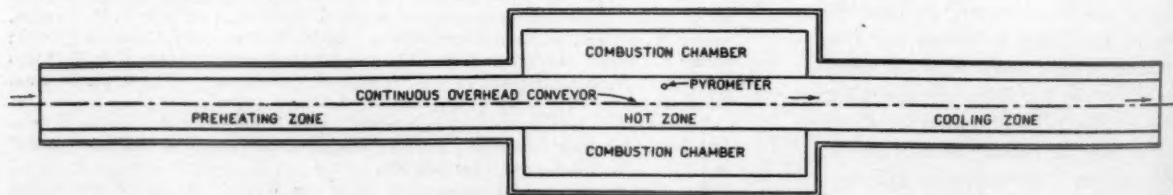
As stated there is one muffle on each side or two in all. These are heated with a burner each, the burners being located in the end walls of the preheat zone and firing directly into the ends of the muffles. The muffles are above the hearth level and the hot products of combustion flow from these, through ducts, down into the tunnel below the hearth and heats the hearth of both the hot and preheating zones, during their passage to the stack.

The furnace chamber in the preheat zone is composed of carborundum

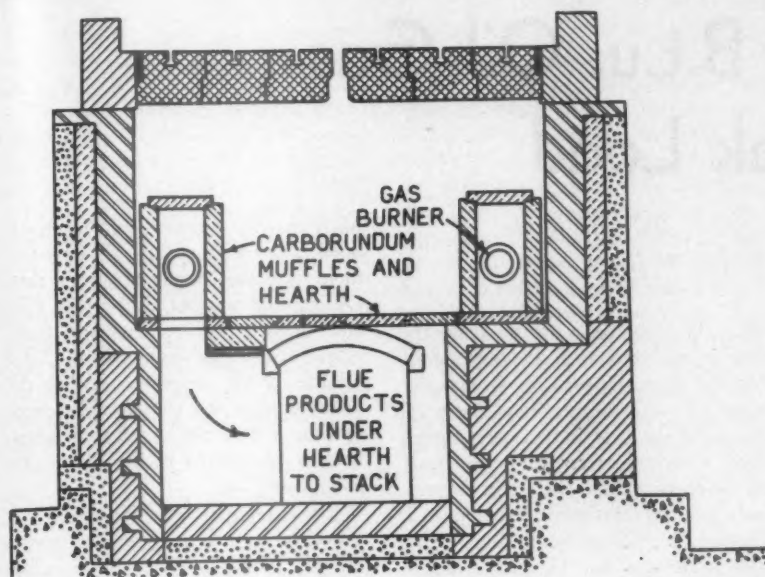


Motor-operated mixer supplying gas-air combustion mixture to burners of enameling furnace. Note automatic temperature control and safety valve

slabs $2\frac{1}{2}$ in. thick. The tunnel is arched to support the carborundum slab hearth throughout the two heating zones while a suspended flat arch composes the roof of the furnace chamber proper. The side walls of the muffles in the hot zone are also of carborundum but are 4 in. thick while the top slabs are $2\frac{1}{2}$ in. thick. The furnace chamber proper is 4 ft. from hearth to roof and as the muffles are only about 2 ft. high this leaves a 2 ft. space between them and the roof. Thus the tops of the muffles are utilized as heat radiating surfaces as well as the sides, and the air heated in the spaces above them is circulated through the furnace chamber.



Plan of continuous enameling furnace



Sectional view of enameling furnace at hot zone

The furnace chamber, through which the ware passes, is thus seen to be T shaped, 4 ft. high, 8 ft. wide above the muffles and $4\frac{1}{2}$ ft. wide between the muffles. In the cooling zone it is only 3 ft. wide from top to bottom. The furnace walls in the hot zone are $1\frac{1}{2}$ ft. thick, composed of $9\frac{3}{4}$ in. of pressed firebrick, $4\frac{5}{8}$ in. of pressed refractory slab and $5\frac{1}{8}$ in. of sil-o-cel, the latter layer being on the outside of the furnace.

The roof of the furnace is composed of special arch tile blocks about a foot square, each suspended from steel work, dovetailed and cemented together. A $2\frac{1}{2}$ in. space is left between the two center blocks thus leaving a narrow opening, for the entire length of the furnace, for the passage of the tools, which hang down from the conveyor chain into the furnace chamber and carry the ware. The chain itself is suspended by a series of brackets with rollers which ride in an I beam located above the furnace slot. On the shank of each tool is a short steel plate, the plates from adjacent tools overlapping and all riding on top of the furnace so as to cover the roof slot and keep the heat from escaping.

The burners are of the premix type and each is provided with an automatic temperature controller and recorder. Gas is piped into the mixer where it

is mixed with the proper amount of air for complete combustion, the volume of air drawn in being controlled by a shutter which regulates the size of the air intake opening. The ratio can also be changed so as to provide any furnace atmosphere required, such as oxidizing, reducing or neutral.

The temperature control consists of a motor operated valve in the gas supply line so close to the rotary mixer, that the same motor that opens and closes the valve will also open and close the air intake shutter of the mixer, by means of a lever. The current to the motor is alternately made and broken with a potentiometer and a thermocouple in the furnace. When the temperature of the furnace rises above that set on the indicator of the controller, the valve motor is energized so that it shuts off the gas flow and closes the air shutter. Conversely, as soon as the temperature has dropped again the motor is again energized, through the thermocouple and potentiometer, and restores the fuel and air flow.

Also cut into the gas line is a safety valve of the magnetic type, the magnet also being cut into the electric circuit operating the mixer motor. As long as the current flows through the circuit the magnet holds the valve in the open position but if, for any reason, the

current to the motor fails, the magnet lets go and the valve instantly shuts off the gas flow.

This furnace is employed for three coat work, the dip tubs, brushing wheels, spray booths, etc. being grouped about the exposed portion of the overhead chain conveyor, which is motor driven through a speed reduction gear train. The ground coat is dipped on and the dipped ware stacked on racks handled with high lift trucks. This ware is then hung on the conveyor, passed through the furnace for burning, and, as it comes out, is transferred to inspection tables where it is inspected and replaced on the racks for delivery to the spray booths. Here the first white coat is sprayed on, air dried, brushed and the ware again hung on the furnace conveyor. This is repeated until all two white coats have been sprayed and burned on.

The ground coat remains in the hot zone for from $3\frac{1}{2}$ to $4\frac{1}{2}$ minutes where it is subjected to a temperature of approximately 1600 deg. F. Each white coat is burned on at about 1580 deg. F. and remains in the hot zone for only $1\frac{1}{2}$ minutes. The finished ware is finally inspected and then sent to the stock room or directly to the assembly lines where it is incorporated in the stoves.

Thanks Gas Co. For His Bill

During its dealings with more than 70,000 customers, the Dallas Gas Company has run the gamut of experience, which ranged from receiving baskets of flowers from pleased customers, to that unforgettable day an irate lady reached into a silk stocking bank and showered Mr. Soper with the amount of her gas bill. But Elizabeth Haynie Behmyer, of the Credit Department, reports a new expression of gratitude: A customer moving to Dallas from out of the state, thanked her personally and the company generally for sending him his gas bill each month. He was accustomed to calling for them regularly at the gas office, he said, and felt it was a great favor to have them mailed to his home.

—Blue Blaze News,
Lone Star Gas System.

Use of High B.t.u. Oil Gas During a Peak Load*

LAST fall we prepared several plants for operation on high B.t.u. oil gas using Diesel oil. These included San Francisco, Oakland, San Rafael, Vallejo, Stockton and Sacramento. They were instructed to heat the generators ready for operation by November 15 and keep them heated until March 15. A very severe cold snap came upon us starting late on December 8 and the morning of December 9 it was evident that we must start making high B.t.u. oil gas with Diesel oil. San Francisco with two generators heated, Oakland with one, San Rafael with one, Vallejo with one, and Sacramento with one were started at once. Before night it was necessary to use four generators in San Francisco. The gas made was 975 B.t.u. The remarkable thing about this experience was that the operators were able to make this gas with so little trouble. The cold snap hit us so quickly that the orders were issued without any previous instructions. The operators were simply told that there would be no production of lampblack nor should there be any considerable oily froth on the water at the seal pots. B.t.u. tests were made rather frequently and the operators depended upon this information and general appearance of the generators. At none of the plants was there any particular difficulty in holding the proper B.t.u. and after a few days it was possible to increase the capacity about 30 per cent above that when operating on residuum oil, making a 550 B.t.u. gas.

We were not able to collect any additional information as to oil per M because in most cases the plants were started so quickly but were not operated up to the capacity of the station meters (Connersville type). What little information we did get indicates that with 975 B.t.u. gas we can get along with about twelve gallons of total oil per M. (Hear oil and make

By Frank Wills

Production Engineer,
Pacific Gas & Electric Co.

oil.) We found also that the temperature in the offtake of the generators for the same quality gas is not the same on various generators even of the same size. It is necessary, therefore, to operate from the appearance of the checker brick, the tar in the seal pots, and the calorimeter tests reported frequently. I hope some time to be able to arrange our Thomas Calorimeters so that the B.t.u. of the gas will be recorded on the operating floor. I believe also that a very short snappy cycle is more feasible with the Diesel oil process than was the old 550 B.t.u. gas, and that therefore automatic operation will be proven as desirable.

We have been able to burn the tar produced under the boilers without any treatment. The tar that collects in the lampblack separators is more or less a curdled mass, evidently being partly emulsified with water. Upon passing through the pump, however, it seems to become quite liquid and burns satisfactorily. The amount of tar produced will more than supply the steam during operating time. Consequently, there will be boiler fuel available for the time that the plant is standing by. Another feature is maintaining heat in the generator during standby time. Instead of heating with oil periodically, natural gas burners have been installed in some of the generators at the top of the primary shell. Insufficient air is supplied at this point and secondary air introduced at the bottom of the secondary shell. This method of heating can be controlled to maintain the checkerbrick at a very uniform temperature, and the checkers are thoroughly saturated with heat so that a quick start to full capacity is possible. It is the consensus of opinion of our operators that a generator can be brought to full capacity in three hours. We used a good grade of Diesel oil both for heating and making. It is

likely that the process could be developed to use a heavy fuel oil, however, there is some disadvantage to that. During cold weather all the pipe lines and possibly the oil storage tanks would require heating. With Diesel oil this is not the case. Unless the plants operate at a considerable length of time it does not as yet seem advisable to attempt to produce a process using heavy oil.

It was reported that the use of 975 B.t.u. oil gas last December was a failure. This involves the principal problem in using any substitute gas for natural gas. It is unfortunate that a substitute gas must be used at a time when there are likely to be a large number of complaints due to many causes. There are likely to be low-pressure areas in the distribution system. There is a tendency for the dust troubles to show up at this time. The weather was the severest that has been had in this locality for about sixty-five years. The heating installations in the homes and buildings were inadequate. In some instances we had low-pressure areas. Naturally a large number of complaints were received and some individuals are sure to account for the entire situation with the fact that manufactured gas was mixed with the natural gas. In territories where we did not serve any manufactured gas there was practically an equal amount of service trouble as occurred where manufactured gas was mixed.

As a matter of fact, I am myself convinced that there were installations that received a relatively high percentage of manufactured gas that did not function properly. This was brought about by the fact that the transmission line coming into San Francisco does not deliver all of the gas through the plant before distribution to the consumers. Consequently, it was not possible to mix the manufactured gas with all the gas. Only a relatively small area received a mixed gas. The percentage of manufactured gas in this area at times probably reached as high

* Report submitted to A. G. A. Joint Committee Conference of the Production and Chemical Committees, New York, N. Y., May 22-23, 1933.

as 60 per cent. According to our tests in San Rafael this should have been satisfactory.

The major problem, as I see it in connection with the use of any manufactured gas as a standby for natural gas, particularly the natural gas, with as high a B.t.u. content as the Kettleman Hills gas is the utilization angle. It is necessary to see that proper installations are made with proper adjustments, and that the entire organization that meets the public be informed upon the true facts so that no mistaken ideas be given to the public and that a minimum amount of service trouble may be experienced.

There are certain conditions under which this standby service may be considered as completely satisfactory. This manufactured gas may be substituted for natural gas on burners that have been adjusted for a medium amount of primary air. The slow burning natural gas may be used and apparently is often used upon the ordinary burner with adjustments that range between the two extremes—very lean and very rich mixtures in the burner. Of the 2,493 appliances inspected in San Rafael, .07 per cent backfired, 13 per cent sooted, 14.6 per cent showed lean flames, and 13.6 per cent had yellow tips when using the straight manufactured gas. The service was passable on about 98 per cent and quite satisfactory on 70 per cent of the appliances in use at that time (May, 1932). During the inspection of these appliances when straight natural gas service was restored, it was found that .3 per cent were sooting, 2.6 per cent were lean, and 8.7 per cent had yellow tips, thus 11.6 per cent of the appliances inspected had not been giving good service with natural gas before the change to manufactured gas. Actually 79.5 per cent of the appliances that were giving good service with natural gas did give good service with manufactured gas.

It is obvious that if the ordinary burner with extremely lean or decidedly fat adjustment is not satisfactory, that there are likely to be some types of burners, especially in commercial heating and industrial work, that may not be sufficiently flexible to give good service with both gases. This is a situation that awaits solution if the use of manufactured gas is to be used

extensively in excess of 50 per cent of the sendout mixtures for extended peaks. I do not believe that the proposition involves changes in the gas made, although we may find that this may help. Any manufactured gas will not contain the same constituents as natural gas and will therefore have some combustion characteristics that are not exactly like natural gas, so that any burner or equipment which has a very narrow range of adjustment for natural gas will likely not be suitable for any other gas.

In many of the installations it has been necessary to make changes in the field such as orifice sizes, draft conditions, and even gas pressures, in order to make the equipment perform satisfactorily with natural gas. Such a job is not likely to be flexible enough for wide range in gas mixtures. If a gas equipment is flexible enough so that it can be installed, adjusted, and put into operation without the necessity of using all these other devices, such as changing gas pressure and remodeling the burner, then a medium sort of adjustment is possible and it is likely that the two gases can be used satisfactorily upon it.

The real problem in connection with mixed gases for standby service is, therefore, a problem of the utilization section, service, sales, and public relations departments, as well as the production man.

Oklahoma Natural Buys Two Properties

PURCHASE of the properties of the Pioneer Gas Utilities Company and the Oklahoma General Gas Company, which operate in suburbs of Oklahoma City, has been announced by the Okla-

homa Natural Gas Corporation, which distributes gas in Oklahoma City and surrounding territory. The announcement, made by President Robert W. Hendee, said that the other two companies have been furnishing gas service to residential and industrial consumers in territory adjacent to that served by the Oklahoma Natural.

Operation of the Pioneer and Oklahoma General properties was started May 1, the official announcement said, to be operated as part of the Oklahoma City district of the Oklahoma Natural organization. It will be under direction of Thomas H. Sterling, district manager of the Oklahoma Natural.

Maryland Law Protects Gas Company Property

A BILL to protect Maryland gas companies has been approved by Governor Albert C. Ritchie and became effective June 1.

It provides that any person who shall wrongfully and maliciously damage, connect, disconnect, tap, interfere or tamper with any mains, pipes, connections, valves, holders, machinery, manufacturing apparatus, appliances or appurtenances belonging to any gas company engaged in the manufacture or supply of gas will be in the same class as those who, under the present law, defraud the companies by tampering with the meters, etc.

The law provides punishment of imprisonment up to six months or fine not exceeding \$250, or both.

To Use Gas in City Buildings

THE Board of Awards of Baltimore, Md., has awarded a contract to the Consolidated Gas Electric Light & Power Co. of Baltimore for gas to be used for cooking, water heating and air conditioning in municipal buildings for a period of five years at an average price of 65 cents per M cu.ft.

Sir Francis Goodenough Sees Worldwide Prosperity

SIR FRANCIS GOODENOUGH, one of Great Britain's utility leaders and well known to members of the American Gas Association, sees prosperity ahead for all the world, according to a London dispatch to "The New York Times."

Sir Francis was quoted as follows:

"I don't want to be too optimistic, but I do believe the tide has turned," he said May 10 when he was elected president of the Protection Societies.

"I don't say it is going to be like a river bore," he went on. "It will start slowly, but when it ultimately begins to flow we shall see not only in Britain but throughout the world a degree of prosperity never before enjoyed by the human race."

Sir Francis added that although the monetary and economic system was out of joint he believed that soon the nations would "see production flowing and prosperity coming to all the world."

New Englanders Active in Association Work 62 Years

THE New England Gas Association of today represents a consolidation of three older associations, one of which was the oldest gas association in America. The present Association was formed on February 25, 1926. The three merging associations were the New England Association of Gas Engineers which was the first gas association in America, having been established at Boston on February 2, 1871; the Gas Sales Association of New England which was established in 1917; and the Industrial Gas Association of New England which was formed in 1923.

The three older associations and the present one have accomplished many worthwhile things for the New England gas industry and their history represents an outstanding record of cooperative and collective accomplishments that pioneered and facilitated the development of the gas industry at many stages and in many ways.

Association of Gas Engineers

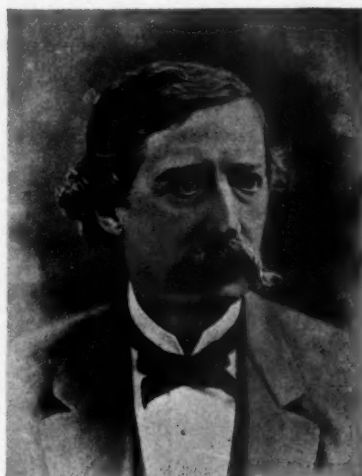
The New England Association of Gas Engineers came into being because of a realization of the value which could be obtained in a growing industry facing many developments through an exchange of ideas and experiences. In 1871, the prevailing attitude among many gas engineers was one of secrecy and jealousy regarding the technique of the business. In many cases, it was difficult for one engineer to inspect the plant of another gas engineer because of this attitude. One of the purposes in establishing the Association was to broaden the viewpoints of the engineers as a whole for the individual and collective welfare of the industry.

Early in 1871, a group of engineers from various parts of New

By Clark Belden

Executive Secretary
New England Gas Association

England attended the funeral of James B. Blake, agent of the Worcester Gas Light Company. Immediately after his funeral, some of



*W. W. Greenough, First President of the
New England Association of Gas Engineers—1871*

them met at the Bay State House and appointed a committee to draft a preamble and articles of agreement for an association.

The Association was formed at a meeting in the office of W. W. Greenough, treasurer of the Boston Gas Light Company, on February 2, 1871. Sixteen men from as many cities representing three states signed the preamble and articles of agreement. Nine other men from eight other cities and one other state who were not present were elected members. Mr. Greenough was elected as the first president.

Some people may assume that the

gathering of statistics by trade associations is a recent development, and it is therefore interesting to note a paragraph in the minutes of the Secretary covering the annual meeting of 1873:

"A committee of five being appointed by the Chair to prepare a printed circular, to be sent to all the engineers or agents of the several gas companies in New England, asking for statistical information relative to those companies, such as length of mains, number of meters, number of public lamps, tons of coal carbonized, feet of gas made and sold, etc., with such other inquiries as the committee may consider necessary and proper to make."

However, the Association had not then been in operation long enough to have broken down the rather widespread attitude of secrecy among the gas engineers. As President Learned of Meriden commented regarding the 1873 questionnaire in his address at the 1915 annual meeting: "The Secretary states that there were few responses to this appeal, many engineers being opposed to giving away information."

In this address, Mr. Learned also notes that the National Gas Association, later the American Gas Light Association, later the American Gas Institute, and now called the American Gas Association, was formed this year—1873.

We hear much about rates these days. Rate cases are before most if not all of the various state commissions. Here and there, certain people claim that their rates are not low enough. At the annual meeting of 1874, a letter was read from Professor E. W. Dimond of Dartmouth College in which he stated:

"As far as my observation runs, people would complain if the price was only one dollar per thousand, and I don't know but they would if it should be given them,

when in Birmingham, England, a few years since, gas was furnished at 3s. 6d. per thousand and grumbling about the price was as common as among us."

An interesting sidelight on the question of competition is indicated in a note made by the secretary covering the semi-annual meeting of 1881: "The electric light was spoken of very lightly, the members not seeming to think the subject worth discussing at this meeting."

Today, more and more emphasis is being placed upon sales. Years ago, the major problems of the gas industry were far more of a technical than of a sales nature. And yet, R. B. Taber, of New Bedford, read a paper entitled "Gas Stoves For Cooking And Heating" at the semi-annual meeting in 1882. Mr. Taber was one of the early leaders in thinking along sales lines. Some of us may feel that the gas industry had no competition until the last half-dozen years. But the business did not roll in so smoothly as all that back years ago. They had competition and talked about it—over fifty years ago.

From time to time, the importance of having the younger men of an industry take part in the activities of their trade associations has been widely stressed. President Haddock stressed this point at the 1933 annual meeting of the New England Gas Association. In his address at the annual meeting of 1890, President Charles F. Prichard said:

"Contrary to what might naturally be expected from its age, this association is composed largely of young men. With them is coming the scientific education which can be brought to bear more closely than in the past upon the daily results; and there is no reason to doubt but that the manhood of the association will be all that its youth will lead one to expect."

The fact that the New England Association of Gas Engineers accomplished much of value to the industry over the years was indicated by Henry K. Morrison of Lynn, who was elected president at the annual meeting of 1915: "The team-work in this old New England Association has always been the envy of other associations."

In his address as President at the annual meeting in 1916, Mr. Morrison said: "We are here to get an inspiration from this meeting, because the record of this Association in the past gives us the right to expect it. We are here to cooperate each with the other whenever such cooperation is needed. No one company's interests are independent of its neighbors, as modern civilization is made up. We are here to broaden our own views as well as render help to some other, whose education or experience may need that help. This has ever been one of the characteristics of this Association in its work. This has a broad educational value



H. R. Sterrett, President, New England Gas Association

and makes it possible to be of great assistance in the policy of training efficient workmen in the commercial and engineering departments of the industry."

Sales Association

The Gas Sales Association of New England was established in 1917. It was a representative sales association in which utility and appliance representatives had an equal voice. Six meetings were held each year—November, December, January, March, April and May. The Association started with a membership of twenty-five which had risen to 250 when the Association was merged in 1926. Originally, there were four gas company representatives and

three appliance representatives constituting the board of governors.

The Association afforded a medium for the exchange of sales ideas that were helpful to the industry. The most pressing merchandising problems of the day were carefully discussed at the meetings. These proceedings helped to impress on the industry the necessity for a strong sales organization in each gas company. When the Association was formed, the industry was not nearly as sales-minded as it is today and its activities helped to bring about a new view of the importance of the sales side of the industry.

As the Association grew in experience and service, more and more of the general executives in the various companies became interested in and took part in its deliberations. During the existence of the Association, the viewpoint which had been held in some quarters that the sales department was a necessary evil or of little more than passing interest was superseded by one of a clear realization of the growing importance of a proper study of sales problems and of proper sales training.

The late William Gould of Boston, then Commercial Manager for the Massachusetts Lighting Companies, was the first Governor of the Association and served for several terms. He was largely responsible for the formation of the Association.

In 1926, the Association established the sales contest awards which were made annually to the companies with the best records in the sales of certain appliances. These awards were the first of their kind in the country and helped to stimulate better sales results. Later, an award for the greatest increase in domestic output per customer was established.

The deliberations of the Association in the last year or two of its separate existence shaped thought along the lines of the industry appealing to the public of New England on a widespread basis which materialized in the cooperative advertising campaign conducted by the gas company and manufacturer members of the New England Gas Association.

Industrial Association

The Industrial Gas Association of New England was formed in 1923, with J. J. Quinn, of Boston, as its first president.

In 1922, Clifford E. Paige who was then president of the New England Association of Gas Engineers and several associates including Charles R. Prichard of Lynn, H. Vittinghoff formerly of Boston and now of New York, the late M. B. Webber, of Arlington, F. E. Drake, formerly of Lynn and now of New York, and Mr. Quinn began to appreciate the importance of adequate training along industrial lines for gas company representatives. Considerable industrial equipment had been sold during the way but this field had become more competitive. It was felt that better-trained industrial gas men and better equipment were vital to the growth of this phase of the business. Feeling that the straight industrial load offered a big field, these men were instrumental in establishing a course at the Massachusetts Institute of Technology in the summer of 1922. The course was repeated in the summer of 1923, forty gas company representatives having attended the first year and a larger number the second year. Mr. Quinn acted as the secretary of the committee in charge of these courses the first two years and he was among those instrumental in forming the permanent organization, the need for which became apparent following the introduction of the courses.

The courses were continued for a number of years under the direction of Professor Gordon B. Wilkes. He was assisted by several associates at M. I. T., by several industrial engineers of the gas companies and by representatives of several manufacturers of industrial gas equipment. Such subjects as insulation, refractories, combustion, the use of various kinds of equipment and appliances were studied during these summer courses which lasted two weeks.

The Association held six meetings each year at which the new developments in the industrial field were discussed in roundtable fashion, with occasional speakers who were espe-

cially qualified to discuss specific phases of the field. The deliberations of the Association did much to turn the attention of the gas industry to the possibilities of the industrial field, to the proper training of representatives to function in this field, and to the development of equipment and processes that would enable the industry to increase this type of business.

Present Association

The New England Gas Association was formed on February 25, 1926, through a merger of the three foregoing associations. F. C. Freeman, of Providence, was the first president of the new Association. At the end of Mr. Freeman's term in 1927, there was a membership of fifty-four gas companies representing 85 per cent of New England's meters, forty-seven manufacturing companies, and 673 individual members. The Association publication—*The New England Gas News*—was established during this first year.

The new Association was organized with separate divisions to represent the membership of the three merging associations. These divisions were termed Operating, Sales, and Industrial. During the term of the second president, the late William Gould, the Accounting Division was formed and several months later the Manufacturers Division, composed of gas appliance and apparatus manufacturers.

The new Association experienced an excellent growth during its second year, having at its close sixty-one gas companies, fifty-nine manufacturing, and 803 individual members registered in the five divisions.

The objects of the New England Gas Association are significant of the somewhat broader viewpoint and of the changed conditions and new relationships which had become a part of the gas industry since the preamble of the original association was prepared in 1871.

The three associations which merged into the present Association did excellent work in their respective fields. However, it was felt that a single association representing the territory would possess several advantages as follows:

It could secure more coordinated results for the New England gas industry than could the three separate associations. Certain large projects could be executed best, if not only, with a unified association. One central and representative association could act and speak for the industry more effectively and with greater authority.

Though one central association, comprised of divisions representing the major branches of the industry, it would be possible to harmonize the viewpoints, objectives and activities of these various branches more effectively.

The three separate associations tended largely to function through the delivery of papers and by roundtable discussions. The combined association could also enter the research field more definitely. For instance, committees at the moment are conducting research on house heating rates, domestic oil competition, dealer-utility programs and principles, procedure in handling municipal taxation matters, promotion of house insulation, and the development of improved equipment for residential humidification use. The older associations lacked a staff which could devote its entire time and thought to the execution of a program of value to the New England gas industry. The men who gave part of their time as officers and directors of the three separate associations from 1871 to 1926 did much constructive work but their efforts were naturally limited by the demands of their company responsibilities. Mr. Freeman, in making the first President's address of the combined association in 1927, remarked on this point: "The biggest need which I see is that of a permanent headquarters and an active operating head to carry on the work of the Association."

The following men represent the complete list of presidents of the new association since its formation in 1926:

F. C. Freeman of Providence; the late William Gould of Boston; Warren G. Stiles of Portland; John J. Quinn of Boston; H. Vittinghoff of New York; the late Marcus B. Webber of Arlington; I. T. Haddock of

Cambridge; H. R. Sterrett of New Haven, who is now president.

The following men represent the complete list of secretaries of the new association:

Everett A. Taylor of Providence; C. D. Williams, of New York; and Clark Belden of Boston, who is now secretary.

The annual meetings of the former New England Association of Gas Engineers and of the present New England Gas Association have for many years been of outstanding importance in the life of the gas industry and have attracted attention in other parts of the country. The general aim has been to make these meetings of the utmost practical value by considering the most important current problems. The printed proceedings of these meetings have constituted reference works of value to the Association members.

One of the important activities of the present Association was the cooperative advertising campaign conducted for three years through 1928 to 1930. More than 100 newspapers, the radio and direct mail were used to secure a wide and varied coverage throughout New England. This campaign was a joint effort of New England gas companies and gas appliance manufacturers. The campaign helped to popularize gas as a fuel in the minds of the consuming public of New England and was commended as a forward step. The New England campaign attracted considerable attention among the gas companies throughout the country. At present, the metropolitan Boston members of the Association are conducting a cooperative advertising campaign in the Boston newspapers, which have a substantial circulation within forty miles of Boston.

The Association has arranged a number of cooperative gas exhibits at expositions and fairs over a period of years. These include the Home Beautiful and Modern Homes Expositions, the New England Prosperity and Hotel Men's Shows, the Eastern States Exposition and the Brockton Fair. These displays arranged in cooperation with various gas company and manufacturer members have brought gas service to the

attention of thousands of potential customers. In cooperation with the A. G. A., the Association arranged exhibits for several shows of the National Steel Treaters organization in Boston.

In addition to the regular meetings of the five divisions of the Association held throughout the year, the Association has cooperated with the American Gas Association for the last seven or eight years in holding a summer sales conference which has been widely attended by the executives and sales personnel of the various member companies. These

conferences have afforded an opportunity to consider the current problems of this phase of the business more at length than in the regular meetings of the Sales Division. This year, representatives of the metropolitan New York gas interests have been invited to join with the New England companies in the sales conference.

The fact that the leading gas men of New England have taken an interested part in the activities of these four Associations for more than sixty-two years indicates the value of their work to the industry.

Follow Simple Plan To Uncover Oil Competition

THROUGHOUT the manufactured gas territory, and perhaps to some extent in mixed and natural gas areas, oil competition in the domestic house heating field is a serious factor. Not quite as active but of growing importance is the domestic stoker competition.

Apparently one of the first points of attack of these competitors is in the homes of customers now using gas-fired boilers and furnaces. Some of these boilers are well adapted to conversion to oil; others, with extended heating surfaces and narrow flues, are not well adapted at all. Of course none of the gas units have combustion chambers of adequate size for oil burning as they are originally manufactured, but structural changes, such as raising the unit on firebrick, permit the enlargement of the firebox.

To uncover where the oil burner salesman has succeeded in interesting gas customers, the following simple plan has been found effective:

Let the gas house heating salesman call his customer on the telephone at a convenient hour, say shortly after dinner time. After introducing himself, the customer may be asked in a perfectly matter-of-fact way if he would be kind enough to let the salesman have the names of some of his friends who would be interested in the purchasing of gas house heating equipment.

If this request is phrased in a sufficiently ingenious fashion, it should be successful in eliciting from the customer a very decided reaction.

If the customer is satisfied, or better, pleased with his equipment, he will try to think of some names. Of course he might not be successful in thinking of a possible prospect on the spur of the moment, and the salesman should be prepared to assist the customer at this point by suggesting a call at some future date to secure the names from him.

On the other hand, if the customer has already been approached by an oil burner salesman, the telephone inquiry is likely to lead to an explosive outburst definitely indicating the trend of the customer's thoughts.

This plan should be successful in uncovering situations in which the customer is contemplating but has not yet decided to go to oil. Knowing that many changes from gas to oil will not be profitable and economical to the customer, and knowing further that the customer will not receive the same degree of satisfactory heating service from oil that he is now getting from gas, this simple plan may be very helpful.

Gas Heats Bird House

"Happy days are here again," sings a large family of rare and beautiful birds. Blue and white peacocks, Lady Amherst and Canadian pheasants, parakeets, love birds and thirty-five varieties of song birds have a home and playground in a garden in Kansas City.

The owner has built for them a big bird house and a wire enclosure where small trees grow. There are pools, perches, swings and cozy rustic houses for each pair of canaries.

In winter, all the small birds are taken into the bird house where a gas-fired heater with automatic control keeps a constant temperature of 65° F. The large birds being harder and better able to take care of themselves are free to go in and out of the house at will.

New York Employees Recognized for Heroic Deeds

TWO women and eighty-four men employees of the Consolidated Gas Company of New York and its affiliated gas and electric companies, serving the New York Metropolitan area, saved human life or performed acts of conspicuous bravery during 1932. For their deeds, these employees received the Meritorious Service Award of the companies, consisting of silver and bronze medals, and engrossed certifi-

icates, and in addition, fifteen employees of the companies received the McCarter Medal, which the American Gas Association gives to gas company employees who apply the prone pressure method of resuscitation successfully to persons overcome by gas.

The companies' Bronze Meritorious Service Medal was presented to Gertrude M. McGrath, saleswoman of The New York Edison Company,

for saving a child from injury, and to Helen Murial Convey, clerk of the Brooklyn Edison Company, for successful application of the prone pressure method of resuscitation.

Ten employees of the companies received the Silver Meritorious Medal during the year. The citations were as follows:

G. F. Degan and C. P. O'Callaghan, of the United Electric Light

(Continued on page 262)



Fred Galvin



Jos. Polizoto



Wm. Daller



Geo. J. Treanor



Matthew Farrell

Recipients of McCarter Medals



L. Kistner



Jno. C. MacDonald



Andrew Harrison



Cornelius Shea



Wm. Webb



Nicholas J. Redden



Frank Retus



Edw. Lalor

Affiliated Association Activities

Pacific Coast Gas Association

THE Pacific Coast Gas Association will hold its annual Northwest Conference in Seattle on June 22 and 23. Probably no where else in the United States does gas meet the intensive competition from solid and liquid fuels and from electricity that it does in the Pacific Northwest. The natural resources of this great empire include large deposits of excellent coal, tremendous forests which yield cord wood and sawdust, and many low-cost water power sites which were overdeveloped during boom times. These things coupled with the fact that California oil is delivered at seaboard points in Washington and Oregon at depression prices, have created a competitive situation which is extremely acute.

For this reason the program of this year's Conference will be devoted to the discussion of ways and means of meeting this competition. The opening session on June 22 will be devoted to a discussion of the general subject "Aids to Load Building," during which Jas. F. Pollard, vice-president and general manager of the Seattle Gas Company, will discuss "Inducement Rates and Budget Plans"; C. B. Babcock, president of C. B. Babcock Company, will analyze the English plan of renting gas appliances; John Keillor, gas engineer of the British Columbia Electric Power and Gas Company, will describe the recent campaign of his company in offering free water heater installations; W. D. Dickey, manager of the Pacific Meter Works of the American Meter Company, will discuss the utility of pre-payment meters under depression conditions, and J. Chas. Jordan, chairman of the Association's Publicity and Advertising Section, will point out the uses of advertising under competitive conditions.

The afternoon of the same day will be devoted to a discussion of angles of appliance selling. Mrs. Beatrice Strege, home service director of the Seattle Gas Company, will describe the excellent results obtained by her department in actual selling; Norbert O. Fratt, credit manager of the Seattle Company, will discuss collections and repossessions; R. W. Colbentz, commercial manager of the Washington Gas and Electric Company, will discuss a campaign which he has developed in which the selling power of all employees is utilized; H. M. Thomas, general manager of the Northwest Cities Gas Company, will discuss the artificial obstacles to selling imposed by regulatory bodies in Washington and Oregon; and J. Earl Jones, commercial manager, Seattle Gas Company, will lead a discussion on dealer cooperation.

The morning session, on June 23, will be devoted to a report of the Association's Production Committee of the Technical

June
12-15 National Association of Purchasing Agents
Chicago, Ill.

15-17 National Coal Association
Drake Hotel, Chicago, Ill.

19-23 American Foundrymen's Association, Convention and Exposition
Stevens Hotel, Chicago, Ill.

22-23 Michigan Gas Association
Hotel Pantlind, Grand Rapids, Mich.

22-23 Pacific Coast Gas Association, Northwest Regional Conference
Olympic Hotel, Seattle, Wash.

22-24 New York-New England Regional Sales Conference
Griswold Hotel, New London, Conn.

26-28 Advertising Federation of America & Public Utilities Advertising Association
Grand Rapids, Mich.

26-30 American Society for Testing Materials
Chicago, Ill.

26-30 American Home Economics Association
Milwaukee, Wisc.

26-30 American Society of Mechanical Engineers
Chicago, Ill.

26-30 American Institute of Electrical Engineers
Chicago, Ill.

Convention Calendar

26-30 American Home Economics Association
Milwaukee, Wisc.

29-July 2 Polish Gas & Water Association
Gdynia, Poland

July

10-28 Household Appliance Course
Columbia University, New York, N. Y.

September

11-16 American Chemical Society
Chicago, Ill.

13-15 Pacific Coast Gas Association
Ambassador Hotel, Los Angeles, Calif.

18-19 Canadian Gas Association
Ottawa, Ontario

18-20 American Transit Association
Stevens Hotel, Chicago, Ill.

Wk. 25 International Gas Conference and Fifteenth Annual Convention, American Gas Association
Stevens Hotel, Chicago, Ill.

October

Wk. 11 National Association of Railroad & Utilities Commissioners
Cincinnati, Ohio

24-26 American Petroleum Institute
Chicago, Ill.

Section of which C. P. Johnson, superintendent of gas department, Puget Sound Power and Light Company, is chairman. J. M. North of the Los Angeles Gas and Electric Corporation will present a report on Chemical Laboratory Methods; T. N. Kellett of the same company will report on "Making Repairs to Water Seal Gas Storage Holders," and W. H. Wattenberger, of the Washington Gas and Electric Company, will report on "Tar Disposal." A special feature of this session will be an address by Dr. Harold E. Culver, supervisor, Division of Geology of the Department of Conservation and Development, State of Washington, describing the latest developments in the intensive search for a natural gas supply in that State. One of the most interesting features of this session will be a symposium on miscellaneous operating problems conducted by R. A. Hoffman, plant superintendent of the Spokane Gas and Fuel Company.

The last session on the afternoon of June 23 will be devoted to a discussion of competition. Ray Trowbridge, industrial engineer of the Seattle Gas Company, will describe the successful methods employed by his company in building and holding the house heating load under present con-

ditions; James L. Stone, vice-president and general manager of the Spokane Gas and Fuel Company, will lead a discussion of competition in the domestic field. Also as a part of this session R. N. Dreiman, general auditor of the Coast Counties Gas and Electric Company and chairman of the association's Accounting Section, will discuss special collection methods employed by various companies in depression times. F. S. Wade, president, Southern Counties Gas Company and a member of the National Directing Committee of Executives, will outline the objectives and plans of that committee's work in behalf of the gas industry.

The meeting will close with a dinner dance held at the Olympic Hotel. As a feature of this dinner dance the Seattle Gas Company's dramatic group under the direction of Frank Cadman, will present the "Gasco Jamboree," and Charlie Frisbee, a Seattle business man noted for his loquacity, will deliver a humorous address.

All arrangements for the meeting will be in charge of Jas. F. Pollard, vice-president and general manager of the Seattle Gas Company, with Mrs. Pollard acting as hostess. H. L. Masser, president of the association, will preside at all meetings.

Southern Gas Association



B. B. Ferguson

A SUCCESSFUL convention was held by the Southern Gas Association at the Hotel Shoreham, Washington, D. C., May 2, 3, and 4. There was an exceptionally good attendance, and all delegates were active in the several sessions of the meeting.

The association was honored with the presence of Arthur Hewitt, president of the American Gas Association, who made an inspiring address at the first general session.

Other addresses were made by the following well-known speakers:

Alexander Forward, managing director, American Gas Association, New York, New York, whose subject was "Public Utility Contribution to Economic Stability"; N. Henry Gellert, president, National Public Utilities Corporation, Philadelphia, Pennsylvania, "Public Relations"; Floyd W. Parsons, editorial director, *Gas Age-Record*, "Constructive Cooperation Within the Gas Industry." John A. Frey, vice-president, Detroit-Michigan Stove Company, Detroit, Michigan, "Development, Research, and Advertising—the Manufacturer's Contributions to the Industry"; John N. Shannahan, president, Midland United Company, Indianapolis, Indiana, "Various Sources of Gas Supply—Their Relation to the Consumer and the Gas Company."

The Southern Regional Sales Conference, which was held at the same time as the annual meeting of the association aroused a great deal of interest due to the pertinent subjects which were discussed by prominent leaders of the industry.

There were also two meetings of the Technical Section, which were unusually well attended.

The new officers and directors elected for the ensuing association year are as follows:

President, B. B. Ferguson, Portsmouth, Virginia; first vice-president, E. S. Dickey, Baltimore, Maryland; second vice-president, W. W. Winters, Atlanta, Georgia; secretary-treasurer, S. L. Drumm, New Orleans, Louisiana.

Directors—C. B. Gamble, Birmingham, Alabama; J. F. Orr, Houston, Texas; W. L. Plummer, Atlanta, Georgia; C. M. Rogers, New Orleans, Louisiana; L. H. Hungate, Jr., Memphis, Tennessee; Edgar Morris, Washington, D. C.; C. L. Ridley, Nashville, Tennessee; W. S. Russell, Atlanta, Georgia.

Pennsylvania Gas Association

MORE than 300 members of the Pennsylvania Gas Association attended their twenty-fifth annual convention at

Wernersville on May 9, 10 and 11. The three-day program, consisting of day and evening sessions, was largely sales promotional in character. L. W. Heath, of the Pennsylvania Power & Light Company, Williamsport, president of the association, presided.

Principal speakers at the evening sessions were Cameron Beck, manager, personnel department, New York Stock Exchange; Floyd Parsons, editorial director, *Gas Age-Record*; Alexander Forward, managing director, American Gas Association, and Dr. Joseph H. Willits, professor of industry and director of research, Wharton School, University of Pennsylvania.

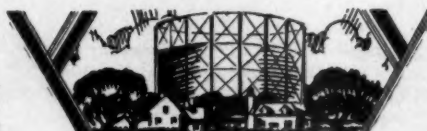
At the day sessions, Ernest R. Acker, Central Hudson Gas and Electric Corp., Poughkeepsie, N. Y., discussed the "Importance of the Cooking Load"; Walter C. Beckjord, Boston Consolidated Gas Company, "The Great Unsold Gas Water Heating Market"; C. Barnes, Charles H. Tenney Co., Boston, "The Value of the Gas Refrigeration Load"; Hugh Cuthrell, Brooklyn Union Gas Company, "Dealer Cooperation"; H. D. Lehman, The Philadelphia Gas Works Co., "Appliance Servicing"; Leonard Ormerod, Bell Telephone Company, "Advertising"; P. H. Myers, Business Research Corporation, Chicago, "Business Research"; C. H. B. Hotchkiss, Industrial Press, New York, "Residence Air Conditioning"; N. T. Sellman, Consolidated Gas Company, New York, "Developing the Industrial Load"; Ernest Johnson, Syracuse (N. Y.) Lighting Company, "The Therm as a Measuring Medium of Gas."

F. M. Milward Oliver, vice-president and general manager of The Philadelphia Gas Works Company, was elected president for the ensuing year.

Other officers elected were A. J. Llewellyn, Kingston, first vice-president; T. W. McDonald, York, second vice-president; E. W. Ehmann, Ardmore, third vice-president; F. W. Lesley, York, secretary; W. G. Sterrett, Jenkintown, treasurer.

Accepting the presidency, Mr. Oliver stated that while the gas industry is a competitive one what must be done now and in the future is for the officers of the companies to forget competition and aggressively enter the market. "We now have," he said, "the three appliances which will allow us to greatly extend gas service throughout the country—the completely automatic gas range, the new air-cooled gas refrigerator and the present-day automatic water heater. With these three appliances aggressively pushed competition in the gas industry would take care of itself."

The program was especially interesting throughout and the proceedings will be published early this summer.



Missouri Association of Public Utilities

FRED KARR, St. Joseph Gas Co., St. Joseph, Mo., was elected president of the Missouri Association of Public Utilities at the annual convention of the organization held April 27 and 28 in St. Louis. Mr. Karr succeeded A. E. Bettis, Kansas City Power & Light Co., Kansas City, Mo.



Fred Karr

Other officers elected were: First vice-president, D. W. Snyder, Jr., Missouri Power & Light Co., Kansas City, Mo.; second vice-president, C. E. Michel, Union Electric Light & Power Co., St. Louis, Mo.; third vice-president, C. F. Farley, Kansas City Power & Light Co., Kansas City, Mo.; treasurer, Hermann Spoehrer, Union Electric Light & Power Co., St. Louis, Mo.; secretary, N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo.; assistant secretary, Jesse Blythe, Jefferson City, Mo.

The new Executive Committee elected is composed of: Major T. J. Strickler, Kansas City Gas Co., Kansas City, Mo.; W. H. Swift, Jr., Springfield Gas & Electric Co., Springfield, Mo.; E. H. Lewis, St. Louis County Gas Co., Webster Groves, Mo.; L. W. Helmreich, Capital City Water Co., Jefferson City, Mo.; A. E. Bettis, Kansas City Power & Light Co., Kansas City, Mo.; Fred H. Luecke, Missouri Public Service Co., Warrensburg, Mo.; Harry Newman, Missouri Utilities Co., Cape Girardeau, Mo.; H. M. Patton, Union Electric Light & Power Co., St. Louis, Mo.

B. J. Denman, Chicago, Ill., vice-president, United Light & Power Co., and member of the Board of Directors of the American Gas Association, in an address on "Problems Gas Companies Must Solve," told of the active competition of electric cookery, and declared that in calling attention to the merits of electric ranges, the electric companies are making comparisons with obsolete gas ranges.

"I am of the opinion that 90 per cent of all gas ranges in use today are obsolete," he said. "From the standpoint of utility, if these ranges are not replaced by modern gas ranges, they are very apt to be replaced by electric ranges."

"One of our greatest problems today, I believe, is to get the range manufacturer to appreciate the need of a national cooperative advertising campaign."

Mr. Denman urged the importance of an inducement-type gas rate, and said:

"The importance of an inducement-type rate has been realized for many years in the electric business, but only comparatively recently in the gas business."

"Possibilities of developing additional business such as hot water heating, space heating and commercial and industrial loads, have been appreciated for several

years in the gas industry, but the inducement-type rate, which is of the utmost importance in this development, is not as yet generally in use. It is true that a block rate is in general use, but the first steps are of such magnitude that residential as well as small and medium size commercial customers have not benefited sufficiently to meet present conditions.

"Competition from oil in baking and similar applications is so severe at the present time that an inducement-type rate has become very essential, not only in developing new business, but also in retaining present business. I want to urge the increasing use of the least optional commercial rate of this type."

A. J. Martin, of Braymer, Mo., editor of the *Braymer (Mo.) Bee*, who recently visited the Muscle Shoals water-power development, gave details of his inspection trip, and pointed out certain conclusions reached by him concerning the project.

"I believe there is a mistaken notion in the minds of many people about the Muscle Shoals development," Mr. Martin said. "There is ample room to condemn the frightful extravagances there, but the defense can be made that it was built in war time with no precedent or past standards applicable. However, condemnation is not constructive.

"The error now being made is the conclusion in many minds that because the government has many millions of dollars invested in Muscle Shoals, it should invest many more. The Shoals is not now a business enterprise measured by any standards that are applicable to a going, solvent business.

"It hardly seems within the realms of reason that this project will ever be a successful business enterprise under government operation.

"But the government can afford to maintain what it has at Muscle Shoals without anybody getting nervous about it, maintain it as war equipment as it maintains cruisers and battleships, but not add more millions for the purpose of engaging in competitive business."

Edward F. McKay, manager of the Oklahoma Utilities Association, Oklahoma City, in an address on "Municipal Plants and So-called 'Taxless Towns,'" gave detailed figures concerning the several towns in Oklahoma which have been referred to as "Taxless Towns." His figures disproved claims that these towns with municipal ownership were able to exist without taxation for city purposes.

Mr. McKay said that figures tabulated by his association show that the average net bill for 50 k.w.h. of electricity in municipal distribution towns is \$5.24, and in privately owned utility towns of nearest population it is \$4.20—a difference in favor of the privately-owned-company-served towns of \$1.04.

"Claims in behalf of the success of municipal utility operation in general and particular claims that municipal utility plants either avoid or reduce the tax burden on cities they serve rest upon accounting practices that are indefinite, unethical, incompetent, and often illegal," Mr. McKay said.

BOOK REVIEWS

A BOOK, privately printed and distributed, has appeared which will occupy an important niche in the historical library of the public utility industry. It is a collection of addresses and articles by the executive of one of the country's largest public utility companies.

The title, "One Phase of a Jerseyman's Activities," is an indication of the busy life of its author, Thomas N. McCarter, president of the Public Service Corporation of New Jersey and chairman of the Board of Fidelity Union Trust Company. There are nearly eighty items included in the volume, covering a span of thirty years. In reviewing this interesting collection of the writings of Mr. McCarter, one is again reminded of the many claims there are to the time and talent of an executive of a large utility. It is proof that the life of the man at the top is no sinecure.

Mr. McCarter has been the speaker at a number of events and important gatherings. Occupying as he does outstanding executive positions in the public utility and banking fields, his opinion has been sought on many diversified matters. His comments on these varied subjects are characteristically dignified and sound. There are not many public men who can say of their writings of thirty years as Mr. McCarter does in the foreword of his book: "There is a surprisingly small amount that I would change if they were prepared today."

"One Phase of a Jerseyman's Activities" constitutes a truly remarkable record of purposeful activities, ably and attractively presented. In review and retrospect the record is impressive indeed and those who read it and who keep it for reference will be well repaid. We can only regret that the book is not generally available.

The Insulation of New and Old Houses. By G. D. Mallory. Pub. by National Development Bureau, Department of the Interior in cooperation with The Dominion Fuel Board. Ottawa, Canada. 6½ x 9¾. Illus. 73 pages.

This booklet is the third of a series of pamphlets which the Dominion Fuel Board is issuing on house insulation, humidity and allied subjects. The first of the series was "Why You Should Insulate Your Home," and the second "Humidity in House Heating." The present, and third, volume deals with the insulation of new and old houses, covering the various types of insulators such

as fillers, rigid boards, flexible boards, slabs, blankets and combinations. Data are given showing how to apply these materials to both new and old houses.

Of course a considerable portion of the book is devoted to the benefits of insulation, showing how acoustical properties are improved, fuel is saved, added comfort is derived in summer as well as winter, and how infiltration losses can be reduced.

The book is popular in its treatment, but is sufficiently technical in the details of how the materials are to be used that it will be of value to both a prospective house builder and to owners of existing homes.

—C. G. S.

Public Utility Rate Structures. By William Merrifield, formerly Gas Engineer, New York State Public Service Commission, now Rate Consultant and member A. G. A. Rate Structure Committee.

Public Utility Rate Structures, by L. R. Nash, is a compendium of the many-sided problems incident to rate-making, which should prove especially valuable to those desirous of becoming better acquainted with this prime essential in the operations of public service corporations. The material is presented with logical sequence and with an almost complete absence of technical verbiage. The book is a worth-while contribution to public utility literature, and there is little connected with the question of rate structure that has escaped treatment by the author. In his handling of the subject, Mr. Nash shows every sign of faith in sound principles of rate-making, while recognizing that expediency of one kind or another may delay the general acceptance and practical effectiveness of better forms of rates.

The author realizes that rate-making, like the tariff, is a local issue. No attempt is made to solve the rate-making problems of public utilities; i.e., no particular form of rate structure is set up as the ideal standard. The evident purpose of the book is to set forth the economic problems which affect the making of rates and the various non-economic influences which thrust themselves into the picture.

The chapters which cover Promotional Rates and Cost Analysis deal concisely yet completely with the methods of approach to the economics of rate-making, the fundamental principle of which is that, in a regulated industry, the cost should be distributed fairly among the patrons in proportion to the use of the plant facilities by each individual or group of customers.

In the chapter on Regulation and Rate Cases, the author shows how the general practice of regulatory bodies tends to a determination of the issues involved on the basis of regulation of profits, rather than regulation of rates. In the treatment of this feature, there is found a note of hope that in the course of time regulation will adopt a broader economic view and concern itself with the establishment of equitable rates, non-discriminatory in fact and fair alike to customers and utility.



ACCOUNTING SECTION

J. M. ROBERTS, Chairman

H. W. HARTMAN, Secretary

E. B. NUTT, Vice-Chairman

Transferring Final Charges
vs. Rendering Final Bills

By H. F. Hutcheson

(Sponsored by the Customers' Accounting
Committee)

MOST gas companies have always rendered final bills to customers when service is discontinued at an address, even though the customer continues to use service at a new address. Considerable controversy was caused when one of the large gas companies changed its policy in regard to this by adopting a procedure of transferring the final charge to the next bill rendered at the customer's new address. No attempt is made here to decide which is the better of the two. The features of each will merely be examined and their merits compared. But before this can be done each will be described more fully so that the difference will be apparent.

The thought which prompted the origination of the newer plan of handling final charges may best be set forth in the words of those responsible for it: "In considering the discontinuance of rendering final bills to customers who were transferring their service with the company from one location to another, we were of the opinion that as other lines of business do not find it necessary to render separate bills when their customers move, there was no good reason why a utility should not handle its accounts in like manner."

When applying this thought in a practical way to the handling of final bills, the routines were arranged in the following manner:

When it becomes definitely known that a customer discontinuing service at one address, is taking it up at another, the cut-off ticket is stamped "Direct Transfer." It is then marked to designate the district, ledger and control of each address. The ledgerkeeper at the old location enters on the back of the cut-off ticket all the information necessary to bill the customer at the new address for charges against the old address, at the same time making a notation on the ledger record, of the destination of the transfer. The transfer clerk makes out a debit control sheet for the new location and a credit for the old. This clerk also transfers the merchandise account, if any, to the new address, noting on the back of the cut-off ticket the necessary billing information pertaining to the account. The ticket at this time is filed with the outstandings at the new address and when the billing preparation clerk finds it there, he attaches it to the meter book sheet as instructions to the billing clerk to add the amounts listed thereon to the regular bill, below the current

monthly charges. When the bill is checked before delivery, a rubber stamp notation, that reads, "This bill includes service at previous address," is placed before the item.

In the year 1932, 44 per cent of the total number of cut-off accounts were transferred to the new address and the remaining 56 per cent were billed as final at the old address in the ordinary way.

In reality there are two plans of final billing accounting in general use in the industry. These are outlined below:

Plan No. 1. The final charge is made and kept in the control at the old address. Bills are printed for the old address but are sent to the forwarding address if one is given.

When the final bill for a customer who is using gas at another address goes into arrears, a memo of this final charge is placed with the billing media at the new location to be added to the next account rendered. The payment of these accounts, when received, are separated by the coupon listings clerks into their proper controls.

Plan No. 2. Final charges, together with all items of arrears pertaining to them are transferred to a special ledger, which takes care of the final bills only. Billing procedure and treatment of arrears are the same as in Plan No. 1.

On analysis it is quite apparent that the plan of transferring final charges to a new address is really a variation of Plan No. 1 described in the preceding paragraph.

The final charge transfer plan is based on the assumption that it is better to treat a customer who is moving, but who intends to continue his service with the company at another address, as though he had never ceased to be a customer, than to treat each contract with him as a separate and distinct transaction. In actual operation the billing practice to this type of customer is, in the first instance, to add his final bill for the old address to his first current account at the new address as though he had

omitted to pay it the previous month. In the second, to render at the new address, five or six days after cut-off, a final bill for the gas he used at the old address up to the date of leaving. It might be well to mention here that customers who give a forwarding address with their cut-off orders, usually have every intention of paying the bill when presented and as few of these accounts go into arrears, a very small percentage is left to be added to the bills at the new address.

A few thoughts which have occurred to the writer concerning the operation of the transfer charge plan, which, though probably controversial, are briefly set down here for your consideration.

1. *The Company.*

A number of companies maintain that the contract for the supply of gas is valid only at the definite address for which the contract was signed and final bill should be made out for the address. Of course this is not an insuperable difficulty if applied to the transfer plan, but it will add to the cost of operation if it is maintained.

2. *The Customer.*

Many customers prefer to have their accounts for each address kept separate, so that those for the old address do not become confused with those for the new. Some collection or investigation men, whose opinions no doubt are colored by their experience with accounts over which some difficulty has arisen, take exception to this statement. However, criticism, if any, on the part of the customers would eventually disappear when they had become accustomed to the practice.

3. *Simplicity of Operation.*

There seems to be little difference in the operation of various plans, for although a final bill is not required for the transferred accounts, under one plan, it does require a debit and credit control sheet to be written for each one. The work of putting the charges on the bill is the same in all three plans.

4. *Orderly Maintenance of Company Records.*

The back of the cut-off work ticket is used as a transfer ticket and also as a billing medium, consequently it cannot be returned to the regular files until after the regular billing period of that district in which the new address is located. This period may be as much as a month.

5. Promptness of Billing.

From a collection standpoint it is of prime importance that bills be rendered to the customers as soon after the reading date as possible. Under the transfer of final charge plan, although the regular final bills are mailed promptly, the transferred accounts have to wait for the next regular

billing period. This point may not seem very important when the added final charge is considered as an arrear on the current account, but it should be borne in mind that in many cases where the final is added, the bill will represent two months' gas, which adds a hazard to its collection as a current account.

Toronto Entertains A. G. A. Accounting Committees

ON April 24 and 25, the following committees of the Accounting Section met in Toronto, Canada, to complete their plans for the International Gas Conference and Fifteenth Annual Convention of the American Gas Association, which will take place in Chicago, Ill., next September:

Managing Committee, Advisory Committee, Accounting Machines Committee and the Office Management Committee.

Arthur Hewitt, president of the American Gas Association, welcomed the members to Toronto, and presided at a dinner at which the visiting delegates were given an opportunity to enjoy the hospitality of the Consumers Gas Company.

The Advisory Committee met April 24, in the board room of the Consumers Company with the following members present:

J. M. Roberts, chairman; J. I. Blanchfield, J. L. Conover, H. C. Davidson, F. H. Patterson, A. L. Tossell and H. W. Hartman, secretary.

By invitation—Arthur Hewitt and E. J. Tucker.

The chairman presented several questions of policy relating to committee activities, and the conduct of the Accounting Sessions. Definite suggestions were drawn up by the Advisory Committee to be submitted to the Managing Committee.

Managing Committee Meets

The Managing Committee met the following day at the same place with the following members present:

J. M. Roberts, chairman, C. H. B. Chapin, H. B. Bearden, H. E. Cliff, J. L. Conover, H. C. Davidson, C. E. Eble, Ernest Johnston, D. H. Mitchell, F. H. Patterson, A. L. Tossell, E. J. Tucker, H. W. Hartman, secretary.

Reports from all committee chairmen were considered. These indicated satisfactory progress in the preparation of the reports for presentation at the Convention.

H. B. Bearden, chairman of the Customers' Accounting Committee, advised that his committee would have for presentation at the Convention a report designed to suggest a yardstick for measuring Customer Accounting Department efficiency. A questionnaire, had been prepared and approved at Association Headquarters, and had been sent out to a limited number of companies with the thought that the information so gathered would form a basis for the committee's report.

Mr. Roberts expressed his appreciation of the contributions which had been received through Mr. Ehrmann's Committee for publication in THE MONTHLY. He reported that the Subcommittee on Improving Customer Relations through Bill Investigations, had made splendid progress in preparation of what promised to be a constructive report. In general, he indicated that the report would be concerned largely with an exposition of the fundamental principles involved in the handling of bill complaints and the training of organization for this purpose primarily from the point of view of making this somewhat difficult transaction and aid to improving public relations rather than the contrary.

Another subcommittee will report on the importance of correct information on service department orders.

A Pacific Coast Subcommittee will report on "The Human Element in Contact Employees."

The General Accounting Committee, is planning to hold a final meeting in St. Louis to pass upon the various subcommittee reports in preparation for the Convention. This would include a subcommittee report on Internal Audits, and a complete report on the Preservation and Destruction of Records. The third Subcommittee is composed primarily of natural gas accountants, and is preparing to submit a contribution of particular interest to that division of the industry.

C. E. Eble, chairman of the Accounting Machines Committee, and H. E. Cliff, chairman of the Office Management Committee, also submitted reports of progress which are covered in the report of their meetings held in Toronto.

Convention Sessions

In connection with the Accounting Section Convention sessions, the following decisions were made:

Only two sessions will be held—Tuesday and Wednesday afternoon. It was decided not to hold any Accounting Section exhibit of office labor saving devices at the Convention in view of the fact that a great many of the manufacturers of such appliances have prominent exhibits in the Century of Progress Exposition.

The chairman reported a tentative division of the time available at the two afternoon sessions, which allotted to each committee the time which seemed necessary, in

the opinion of the Advisory Committee, for the presentation and discussion of the topics which they were working on. It was understood that each committee Chairman should have the privilege of recommending just how this time allotment should be utilized in the presentation of his material, and, if considered desirable, might recommend that a part of the material be presented on one day, and a part of the material on another day. On receipt of such recommendations a tentative program and time log will be made up and distributed to the members of the Managing and Advisory committees, and later published as a tentative program.

One outside speaker will be secured to make an address on an appropriate subject. W. A. Sauer, vice-president of the Midland United Company, was unanimously chosen to welcome the accounting delegates to Chicago at the first afternoon session, and H. M. Brundage, vice-president of the Consolidated Gas Company of New York, will be requested to present the closing address. The program contemplates that no formal reports will be submitted for the following committees: Statistics, Exhibit and Publicity.

All of the above committees, however, have done splendid work during the year in their various fields.

It was agreed that a definite policy should be adopted that all presentations at the Convention, with the exception of the address by the outside speaker, should be summarized, with a view to occupying not more than ten minutes, and in any event not more than fifteen minutes. Copies of all convention reports must be received at Headquarters between June 1 and June 15. The Secretary was instructed to maintain a prompt schedule of printing with a view to the following predistribution of all Convention papers and reports:

1. To all Committee Chairmen and committee members of the Section.
2. To gas company member delegates.
3. To any special member of company organizations designated by said company to distribute copies of the reports to special discussers selected by the company.

Just before adjournment, on motion made and carried, the committee members expressed their deep appreciation to Mr. Hewitt, Mr. Tucker and other members of the Canadian organizations for the splendid welcome and hospitality which had been afforded them during their stay in Toronto.

Accounting Machines Committee

Sessions of the Accounting Machines Committee were held at the Royal York Hotel, Toronto, on April 24 and 25, with the following members present: C. E. Eble, chairman, P. H. Brown, E. F. Embree, G. L. Harrison, J. E. Mickle, Morris Tracy, H. W. Hartman, secretary.

By invitation—E. A. Berry, representing W. S. Bowser, J. W. Mackie, W. F. R. Munnich, D. H. Mitchell.

(Continued on page 260)

COMMERCIAL SECTION

WALTER C. BECKJORD, Chairman

J. W. WEST, Jr., Secretary

N. T. SELLMAN, Vice-Chairman

Air-Cooled Refrigerator Making Sales History

FROM many cities and towns in the country comes word that the new Air-Cooled Electrolux is making sales records. Gas companies report a public enthusiasm and buying interest that has far exceeded even the best hopes of leaders in the gas industry.

All through the East dramatic introductory campaigns were put into action. The Philadelphia Gas Works Company started the action on April 1 with one of the greatest sales drives ever launched by that company. Representatives of most of the leading eastern companies attended this meeting, as well as members from all branches under the supervision of U. G. I. companies.

Boston followed with a sensational dog-sled entry and presentation of the first Air-Cooled Electrolux to Admiral Richard E. Byrd, conqueror of the South Pole, by W. C. Beckjord, vice-president of the Boston Consolidated Gas Company. Prior to this presentation a mass-meeting of New England sales executives and salesmen was conducted at the Hotel Statler.

A stirring reception was arranged in Washington, D. C., which quickly set the nation's Capitol buzzing with excitement. The Washington Gas Light Company served as host to more than one hundred builders and architects at a pre-showing at the Wardman Park Hotel.

Almost simultaneously came the introduction in Brooklyn, New York, where two great utility companies started drives under the most auspicious arrangements in their history. The Brooklyn Union Gas Company sold nearly 200 refrigerators the first day; finished their first month with over 1,700 orders, mostly retail. This record by far exceeds any previous major appliance sales record ever established. Meanwhile the Kings County Lighting Company got forty the first day; are now finding a tremendous acceptance from Brooklyn builders and apartment house operators.

Next followed Pittsburgh with three utility companies putting Electrolux on their major appliance list. These companies include—Manufacturer's Light, Heat and Power, Equitable Gas Company and Peoples Natural Gas Company.

At Columbus, Ohio, the Columbia Gas and Electric System is in the midst of a successful campaign.

The Associated Gas and Electric System announced a quota of 24,000 refrigerators to be sold during its "Annual Refrigeration Jubilee." Gas refrigerators will be sold in all gas combination properties throughout the period of the campaign.



Real Admiral Byrd and Walter C. Beckjord, vice-president of the Boston Consolidated Gas Company, photographed together April 7, when Mr. Beckjord presented a new air-cooled Electrolux to the explorer in co-operation with the Electrolux company. The float, in rear, was drawn by the sled dogs through the streets of Boston and neighboring towns.

From all through the South and Southwest good reports are received. At Atlanta, Birmingham, Dallas, Fort Worth, New Orleans and other cities, expansion programs are being conducted to capture the refrigeration business. Every possible means of acquainting the general public with the advantages of gas refrigeration is being used. Cooking schools, home shows, radio features and other novel features will continue throughout the summer selling season.

In the Middlewest equally optimistic reports are being received from Minneapolis, Milwaukee, Chicago, St. Paul, Omaha, Cedar Rapids, St. Louis and Fort Wayne. The key feature of these campaigns is the enlisting of employee cooperation whereby each employee is not only requested but urged to secure prospects for the sales organization to develop or close.

From the Pacific Coast aggressive action is reported. In Los Angeles three major utilities—the Southern California Gas Company, Southern Counties Gas Company and

the Los Angeles Gas and Electric Company—are ordering refrigerators by carloads. One of the features of this sales drive will be the cooperation afforded by master plumbers and allied dealers.

Returns to Texas
To Practice Law

RALPH B. FEAGIN retired from his executive positions in New York with the Electric Bond and Share Company and its associated companies to resume the practice of law in Houston, Texas, as an active member of the firm of Baker, Botts, Andrews and Wharton, on June 1. Mr. Feagin is a native of East Texas, and his connection with the Houston firm dates from his graduation from the law department of the University of Texas in 1914.

He resigned from the firm in 1927 to become a vice-president of Electric Bond and Share in New York. He was active in the organization of the United Gas Corporation and its principal operating subsidiary, the United Gas Public Service Company. He was president of the corporation from the time of its organization, and will continue as counsel for the operating subsidiary.

Among Displays at
World's Fair

Glimpse of Underwood Elliott Fisher display

INDUSTRIAL GAS SECTION

E. L. WILDER, Chairman

C. W. BERGHORN, Secretary

F. B. JONES, Vice-Chairman

Small Automatic Stokers vs. Natural Gas*

By Cecil W. Smith

IN the past two years the development of automatic coal stokers for both household and commercial installations has been proceeding rapidly. More manufacturers have entered the market, the resulting competition has greatly reduced prices and therefore many more sales are being made. In addition to this increased activity on the part of manufacturers, competition has become keener between the coal companies. Their markets have been greatly reduced by the installation of oil and gas burning equipment and as a result coal prices have been greatly reduced. A third factor contributing to this increased sale and use of stokers has been a reduction at various points of freight rates and other transportation charges resulting in a further reduction in the delivered price of coal to the ultimate consumer.

The fourth and possibly the most important factor in this situation as it affects us in our holding present customers on our lines or in securing new gas customers has been the fact that many of these customers are now finding it necessary to economize on all their expenditures for operating expense, whether it be in their places of business or their homes. Where it was possible a few years ago to sell a customer an installation that would cost him more to operate on the strength of cleanliness or convenience, sales on this basis are becoming more and more difficult. In many cases now such intangible values do not carry much weight if operating expense or cash outlay for fuel or equipment is increased. Luxuries are for the time being largely eliminated or at least being greatly curtailed.

With these thoughts in mind, it is my purpose to present a few facts on stokers which may be of some assistance in helping to hold our present customers and in combating new stoker sales. We may sum up the points to be considered in connection with each such installation briefly as follows:

Comparison of coal and gas fuel cost.

Comparison of coal and gas installation cost and interest thereon.

Other operating costs.

Fuel and ash handling costs.

Intangible and incidental costs.

Depreciation and repairs.

Each of the foregoing will be discussed in connection with a typical household and typical commercial installation.

Comparison of coal and gas fuel cost: This will vary in each of the localities served and depends upon the local conditions

tions as to coal supply and freight rates and also upon local gas rates.

Generally speaking, however, in the northwestern territory there are three classes of coal to consider, as follows:

- (a) Lignite coal which is available in North Dakota and Montana. This coal runs about 7,000 B.t.u. per pound in the better grades. Assuming a stoker efficiency of 65%, which is liberal, and a gas efficiency of 70% with 950 B.t.u. gas, one ton of this coal equals 13,700 cu.ft. of gas. If, for example, then such coal is delivered to the customer for \$3.00 per ton, the equivalent cost of gas would be approximately 22¢ per M.
- (b) Sub-bituminous coal which is available in Wyoming and South Dakota. This coal runs about 9,000 B.t.u. per pound. Assuming the same efficiencies as above, one ton of this coal equals 17,600 cu.ft. of gas. Such coal delivered to the customer at \$4.50 per ton, as in South Dakota for instance, is equivalent to gas at about 26¢ per M, but with coal at \$1.50 per ton in Wyoming the gas rate equivalent is about 10¢ per M.
- (c) Bituminous coal such as Round-up available in Montana, or Owl Creek available in South Dakota, runs about 11,000 B.t.u. per pound. Assuming the same efficiencies as before, one ton of this coal equals 26,000 cu.ft. of gas. This coal delivered to the customer at \$5.50 per ton, equals gas at about 22¢ per M.

Of the three coals described, the lignite is not so much to be considered as competition because nowhere, except in certain isolated localities, is it available in sufficient quantity properly screened or sized to warrant the installation of much expensive stoker equipment and certainly it will not be popular for domestic stokers.

In meeting stoker competition it will be found that the foregoing comparisons and figures are the only ones presented by stoker salesmen. Stoker sales are all made on the basis of comparative fuel costs alone and if we are to permit the argument to rest on that basis alone we will lose customers. Ordinarily even more optimistic figures than I have given are used. The coal B.t.u. value is increased and usually the figures for gas are decreased. For this reason we should present always to the customer a picture of the other costs in connection with stoker installations.

Comparison of installation costs and interest thereon: The latest prices of a standard small stoker installed are as follows:

Size No.	Approximate Capacity	Installed Cost
4	6,000 sq.ft. steam 350 lbs. coal	\$1,250
3	4,000 sq.ft. steam 225 lbs. coal	1,050
2	2,000 sq.ft. steam 150 lbs. coal	900
J90	1,500 sq.ft. steam 100 lbs. coal	700
J60	1,000 sq.ft. steam 80 lbs. coal	610
D40	800 sq.ft. steam 50 lbs. coal	525
R40	600 sq.ft. steam 40 lbs. coal	380
R30	400 sq.ft. steam 30 lbs. coal	352

The capacities given in steam radiation are only approximate and are based on 12,000 B.t.u. coal so that with the lower grades of coal larger installations would be necessary. To the above prices must be added \$25 for a thermostat and \$50 for a synostat or pilotstat, a device for starting the stoker periodically to keep the fire lit. The small size installation for domestic use, therefore, completely equipped will cost about \$450 completely installed. The commercial installations will cost from \$1,000 to \$1,400 installed. Compare this then to complete automatically controlled gas installation at approximately \$100 for domestic burners and \$200 to \$400 for commercial installations and it will be seen that the stoker costs approximately four to five times as much as a gas installation. A fixed interest charge must be added annually to the customer's fuel bill and this charge should not be less than 8 per cent annually.

Other operating costs: With gas there are no other operating costs. It is delivered to the burner under its own pressure and it is paid for only as used. With the stoker, however, electric power is required for operation and all stoker salesmen dismiss this with the statement that the cost is infinitesimal. As a matter of fact, however, the cost of power is a considerable item. It is not a constant item, as it depends upon the characteristics of the individual installation, for some stokers will operate more frequently and continuously than others. However, it should be fairly constant per ton of coal consumed. One stoker which we operated last year used 1,007 k.w.h. and handled a little less than 200 tons of coal, or between 5 and 6 k.w.h. per ton. The smaller stokers forcing coal through smaller feeds and handling lignite or sub-bituminous coals would probably use up to 10 k.w.h. per ton of coal handled.

On this basis a larger commercial customer using a No. 2 stoker and handling about 200 tons of coal per year in this territory would probably use 1,200 k.w.h.

* Presented before Sales Conference of the Minnesota Northern Power Co., April 1, 1933.

per year and this would probably cost him 7¢ per k.w.h. or \$84 per year for power. A domestic customer using 20 tons of coal would probably use about 200 k.w.h. annually and assuming his cost also to be 7¢ per k.w.h. his power would cost \$14 per year. The foregoing figures are for heating installations only. For installations in creameries and other small industries where constant operation is required the power bill would be largely increased. For instance, in one institution where six stokers are in constant operation the power bill is almost \$300 per month.

Depreciation and repairs: Stoker installations do not last forever. One stoker company advertises that its equipment is good for fifty years' operation, but none of them have actually been in operation much more than five years. From what I have seen of them I would figure the useful life of the larger commercial installations at ten years and the small domestic installations at not to exceed five years. On this basis, one-tenth of the cost of commercial and one-fifth the cost of domestic installations must be charged annually to the customer's operating expense.

In addition to the depreciation charge certain repairs are always found necessary. This is particularly true as the stokers get older. An additional charge of 2 per cent annually should be allowed for this and this may be considered a minimum for this contingency.

Fuel and ash handling costs: This is an item for which the customer will make no allowance in computing comparative costs, for the reason that there is some employee about who is supposed to have plenty of time for this or the coal dealer will do it for nothing. Usually, however, there is some expense involved so that with domestic installations at least \$10 per year should be allowed and for commercial installations at least \$25 per year should not be disputed. This would cover the hauling of ashes and cleaning of basements, if nothing else.

Intangible and incidental costs: These will be summarized and not discussed in detail as they are familiar to all and cannot be appraised in dollars and cents in making a cost comparison. They are:

Gas always instantly available. Coal fires must be laboriously started.

Gas is the clean, ideal fuel. Coal and ashes soil and smudge the basement and property.

Gas requires no delivery. Coal must be hauled in over lawns and is not always available.

Gas requires no storage space, making basements available for other use. Coal and ashes must be stored.

Gas rates are fixed and are not subject to variation yearly and cannot be arbitrarily raised.

To sum up two specific cases, consider first a domestic customer using about twenty tons of sub-bituminous coal annually. His cost with a stoker installation will be:

Coal, 20 tons @ \$1.50	\$ 30.00
Electric power, 200 k.w.h. @ 7¢	14.00
Ash handling	10.00
Interest, 8% on \$450	36.00
Depreciation, 20% on \$450	90.00
Repairs, 2% on \$450	9.00

Total annual cost \$189.00

Let us now consider the same customer as using gas. One ton of coal equals 17,600 cu.ft. of gas so that his equivalent gas consumption would be 352,000 cu.ft. of gas. His cost will be:

352,000 cu.ft. @ 35¢	\$123.20
Interest, 8% on \$110	8.80
Depreciation, 20% on \$110	22.00
Repairs, 2% on \$110	2.20

Total annual cost \$156.20

This shows a saving in favor of gas amounting to about \$33 per year, or 20% of the gas cost in spite of the \$90 difference in the cost of fuel. In other words, the depreciation alone on stoker equipment wipes out the difference in fuel cost.

Let us now consider a commercial installation using bituminous coal. We will assume that the customer uses 300 tons annually and that a No. 3 stoker is installed. His operating expense with coal will be:

Coal, 300 tons @ \$5.50	\$1,650.00
Electric power, 1,800 k.w.h. @ 7¢	126.00
Ash handling	25.00
Interest, 8% on \$1,050	84.00
Depreciation, 10% on \$1,050	105.00
Repairs, 2% on \$1,050	21.00

Total annual cost \$2,011.00

One ton of coal equals 26,000 cu.ft. of gas so that the equivalent gas consumption would be approximately 7,800,000 cu.ft., so that this customer's gas cost would be about as follows:

7,800 M cu.ft. of gas @ 24¢ average	\$1,872.00
Interest, 8% on \$250	20.00
Depreciation, 10% on \$250	25.00
Repairs, 2% on \$250	5.00

Total annual cost \$1,922.00

These two examples illustrate clearly the following points in comparing gas and stoker operating costs.

The larger the customer, the more unfavorable the comparison is to gas under domestic and commercial rates. But it must be borne in mind that there are not many customers available using as much as 300 tons of coal so that from that point down the comparison is increasingly in favor of gas. Furthermore, in most cases such large customers are schools or other institutions enjoying special industrial rates.

Electric power costs, interest and depreciation overcome the apparent saving on fuel. Stoker salesmen do not point this out.

Any labor saving or due consideration of the intangible values in using gas throw the balance greatly in favor of the use of gas.

Except for sporadic attempts to secure certain large customers we cannot expect much sustained effort to sell stokers. The principal competition will be on commercial installations. The small domestic stokers are an innovation and have not proven their worth. Their cost is high and the handling of coal and ashes is undesirable in the home. Most hot air furnaces are not adapted to the installation of stokers because of the absence of adequate clinker doors. Each stoker installation is a problem in itself and in order to combat the installation you should make a complete analysis of the situation as illustrated by the two examples given.

Anton G. Hodenpyl

ANTON G. HODENPYL, New York banker, a director of J. G. White & Co., Inc., and The J. G. White Engineering Corporation, died of heart disease April 23 at Richmond, Va. Mr. Hodenpyl, who was eighty years old, became ill while in Richmond as he and Mrs. Hodenpyl returned by motor from Coconut Grove, Fla., where they had passed the winter, to Hill House, their home at Locust Valley, L. I.

Mr. Hodenpyl was born November 7, 1852, at Grand Rapids, Michigan. In 1888, he organized The Michigan Trust Co., and served as secretary and vice-president until 1901, when he went to New York as member of the firm of King, Hodenpyl & Co., and also as member of the firm of Hodenpyl, Walbridge & Co., which latter firm became Hodenpyl, Hardy & Company January 1, 1911.

Mr. Hodenpyl was a pioneer in the electric power and light industry, having served as president of Commonwealth Power Railway & Light Co., The Michigan Light Co., Union Railway, Gas & Electric Co., The Evansville Light Co., Peoria Light Co., Springfield (Ill.) Railway and Light Co., most of which companies have been merged into the present Commonwealth and Southern Corporation.

He was director of J. G. White & Co., Inc., The J. G. White Engineering Corporation, Matinecock Bank of Locust Valley, L. I., Netherland-American Foundation, Piping Rock Water Co.

A. G. A. Alumni Group Holds Reunion

Alumni of the American Gas Association Employee-Customer Relations Course at The Brooklyn Union Gas Company, Brooklyn, N. Y., enjoyed a beefsteak dinner and reunion May 25. About seventy-five employees who took the course attended.

Thomas J. Perry, superintendent of Customers' Service Division, who directed instruction, was the guest of honor.

PUBLICITY AND ADVERTISING SECTION

JAY C. BARNES, Chairman

ALLYN B. TUNIS, Secretary

HENRY OBERMEYER, Vice-Chairman

"A Hundred Years Ago"

A HUNDRED years is not a very great span of time in the history of the world. We have known people who could tell us "what things were like" a century back. The first railroad and the first steamboat came within this span, and yet there was little progress, if any, in the matter of transportation in the eighteen hundred years previous to our century of progress.

George Washington travelled with no more comfort and speed than Julius Caesar. But in this last hundred years we have gone from crawling over the earth to flying through the clouds.

Chicago got its first gas service only eighty-three years ago and then it merely served a few street lamps and shop windows. Forty years later, the street lamp system was the largest consumer of gas. A few wealthy citizens lighted their homes with flat burners which used five cubic feet per hour. Most people used lamps and got their kerosene from the grocer who stuck a potato on the spout of the can for a cork.

Then came the gas mantle, burning far less gas and giving ten times the amount of light. Soon, rich and poor alike used gas for lighting. Gas replaced coal and gasoline cook stoves. Gas was cleaner, trouble-free and more convenient; in most cases, more economical.

Forty years ago, only the better class homes boasted a bath tub. Today, ninety per cent of Chicago families have a bath tub—the largest percentage in the world. Europeans say we are fanatics on personal cleanliness. Americans use four times as much soap per capita as any nation in the world. We clamored for constant hot water supply and we obtained it with gas water heaters.

During the past ten years, gas has come into use for home heating. American standards of living preclude firing labor, ash hauling and the foul air that comes from crude fuel heating. Eventually gas will supplant other fuels in heating—controlling and conditioning the very atmosphere of our homes.

The most dependable and economical method of refrigeration is obtained with a gas burner. Developments like these can be found in any industry. Twenty years ago ownership of an automobile included "get out and get under," but today we maintain them from the dash board.

Practically all of our industries were carried on in the home a hundred years ago. Parents and children combined forces from daylight 'til dark. Making a living was mixed up with just living.

Then came partnerships and separate quarters for shop work; from partnerships sprung companies; from companies came

corporations. None was without criticism but each brought better conditions, better food, better housing, more time for leisure and recreation. If you doubt this, ask grandpa—or great grandpa; if you can find one.

We've come a great distance in the last hundred years. Industrialism has travelled far and made many mistakes but, after all, it is only an infant. Like all infants it must learn painfully by the "trial and error method."

Reorganizations and readjustments are always painful periods, but when passed, they bring better conditions, better relations between employer and employed. This is inevitable and it isn't philanthropy. It is just good business.

Just now we are crippled with "growing pains." We have grown too fast. We shall find our way out through the application of good common sense and without the substitution of teaspoons for steam shovels. History repeats itself, and the safest guess as to what will happen is based on what has happened.—*Peoples Gas Gazette*.

Jay Barnes Heads P. U. A. A. Program Committee



Jay Barnes

JAY C. BARNES, chairman of the Publicity and Advertising Section of the American Gas Association and director of advertising of the New Orleans Public Service, Inc., has accepted the chairmanship of the program committee of the Public Utilities Advertising Association Convention which

will be held in Grand Rapids, Michigan, June 25 to 29.

Following are other members of the committee: Cyril Nast, the Consolidated Gas Company, New York; J. R. Pershall, Public Service Company of Northern Illinois, Chicago; T. F. Gessner, the Detroit Edison Company; and T. P. Pfeiffer, Byllesby Engineering and Management Corporation, Chicago.

Donald M. Mackie, Commonwealth and Southern Corporation, Jackson, Michigan, a former chairman of the Publicity and Advertising Section, has been appointed chairman of the committee for Arrangements and Entertainment.

Offers Prize-Winning Advertisements in Book

THE Public Utilities Advertising Association is preparing a booklet containing the 1933 prize-winning utility advertisements in its annual contest. Orders are being requested now to insure prompt and economical publication of this valuable collection.

The booklet will contain reproductions of forty-nine advertisements, nineteen more than last year, which have received awards and honorable mentions in the Better Copy Contest. The booklet contains 24 pages, 9½ in. x 12½ in. Prices have been reduced and are as follows: Single copies \$1.50; four copies \$5; six copies \$8; ten copies \$13.

Because of financial conditions and a desire for economy in production, orders must be entered at once with the treasurer, Howard F. Weeks, Room 1740, 4 Irving Place, New York. The association urges that copies be made available for all gas company executives, gas company libraries, public libraries, local advertising clubs, and other organizations offering advertising study courses. If sufficient advance orders are received, the booklet will appear June 25.

Are You Wearing the A. G. A. Pin?

These small emblems, designed in blue and gold, are unusually attractive and durable. Price \$2.

MAIL THE COUPON

AMERICAN GAS ASSOCIATION,
420 Lexington Avenue,
New York, N. Y.

Here's my check for \$2. Please send me an A. G. A. Membership Pin.

Name

Address

City

TECHNICAL SECTION

J. A. PERRY, Chairman

H. W. HARTMAN, Secretary

O. S. HAGERMAN, Vice-Chairman

Adapting Machines To Preparation Of Field Orders

By Thomas J. Perry

Customers Service Division,
The Brooklyn Union Gas Company

THE control of business today demands a vast number of facts gathered accurately, quickly and economically. Those benefits arising as a result of the introduction of labor saving machines in manufacture are a well known story. Not only have they been the means of saving physical effort but they have created tremendous savings in manufacturing costs and have effectively speeded up production processes. The development of machines for use in accounting has revolutionized office methods and reduced clerical costs to a point where pen and pencil methods are obsolete.

The application of machines to accounting work includes, of course, the use of machines on other classes of clerical work which cannot strictly be described as either accounting or statistical work. The purpose of this paper is to describe briefly the application of machines to the preparation of certain classes of customers' orders in the Customers Service Division of The Brooklyn Union Gas Company.

Under our old system the customers' records kept by our Orders and Records Section consisted of hand written cards. Entries were made on these cards of every order completed including the dates on which meters were set, reset, unlocked or locked, but there was no practical method of gathering these data for the purpose of issuing age change or remove locked orders.

For this reason such orders were prepared at the various commercial offices and sent over teletype machines to the Customers Service Division. The commercial office entry clerks did this work when they had opportunity; consequently, the orders came through irregularly and were not prepared with reference to the particular needs of the Shop at the time. When the Shop had the personnel available for this type of work the orders in many cases were incorrect due to meters having been removed or changed in the interim and for various other reasons necessitating their return to the Orders and Records Section for revision.

The old record was prepared manually and required a considerable number of people in its preparation. The substitution of the mechanical record provides us not only with means of doing the same work with fewer people but also relieves the commercial offices of the necessity of doing this work.

Our present mechanical record contains all the information that the old record contained with the exception of service orders completed for each customer. For reference to completed service orders we

are using the completed order files and find this to be an improvement as it eliminates the intermediate operation of having first to refer to the permanent record card for order numbers. Orders affecting changes in meter numbers and other changes in the customer's account, however, are posted to the new record in the same manner as in the old except the work is done by machine instead of manually.

In addition, the mechanical record is so constructed that considerably more information can be added to it than was possible with the old record.

The machines consist of card punches, a numerical tabulator and a sorter.

Card Punch Machines

The automatic punch machine perforates into the cards all numerical information essential for details and controls. Punching is the only manual operation in the method. The operator provided with the information to be recorded, transfers such information to the record cards by means of this machine.

The information to be punched into the card is first "set up" for the entire card. Then, by a simple key depression, the card is automatically punched and ejected. During the punching operation of one card the succeeding card is mechanically moved into position for punching. No perforation is made in the card until this final operation. Wastage due to spoiled cards is, therefore, reduced to a minimum.

It is possible to punch 125 cards a minute when the machine is set automatically for punching one card after another without an operator. Some idea of the capacity of these machines may be had from this. So far the greatest number of cards punched in a day by one of our operators was 2,332. When we take into consideration, however, the fact that the work is entirely new to the operators it will be seen that they will attain greater speed when more experienced. The average number of orders completed by our Shop daily is about 3,500 and the operator mentioned punched 2,332 cards, two-thirds of a day's work. One advantage of the punch machine can be seen from this.

Some features of this machine are:

1. Automatic card feeding, ejection and stacking.
2. Back spacer both manual and mechanical.
3. Repeat punching.
4. Duplicate punching.
5. All holes are punched at once.
6. Adjustable skip stops.
7. Keyboard is designed to prevent double punching, but permits double punching in a column when required.
8. Speed—125 cards per minute.
9. Flexible error correction mechanism.
10. Light key action.

Numerical Tabulator

Information punched in our cards can be translated and printed by this machine in statement form. Moreover, the Tabulator will add or subtract, and produce sub or grand totals, or both, whenever desired. The capacity of the machine is not affected where grand totals in addition to sub totals are desired. Grand totals are accumulated in the same unit or units with sub totals, and the figures representing grand totals are printed directly under the sub totals.

The features of this machine are:

1. Continuous automatic feeding.
2. Listing and non-listing as desired.
3. Adding.
4. Automatic complement subtraction.
5. Automatic sub totals.
6. Sub totals in same unit as details.
7. "Y" wire sub totals.
8. Automatic sub and grand totals.
9. Field selection.
10. Variable automatic stopping device.
11. Regular, special, automatic constant spacing, and compensating carriages.

Our chief purpose in using the Tabulator is to enable us to check the information transferred to the punch cards with greater speed and more accuracy. When we started to change over to our mechanical system we found it extremely difficult to read the holes in the card because of eye strain when the operation is continuous as in the case of a change over. We learned a simpler and more accurate method was to print the information from the cards in statement form and then check from the statement to the old cards. This resulted in increased speed, greater accuracy and elimination of eye strain.

This machine can also be used for the purpose of accumulating data for reports as the machine lends itself very readily to the selection of all or any part of the data

OLD TYPE CARD

[illegible]

relief falls on our commercial offices and this work is so divided among the book-keeping forces that it is difficult to put it on a money basis.

Facsimilies of the old and new customers record cards are shown herewith together with a tabulation showing the data which the new card contains in code.

Managing Committee Hears Progress Reports

A DINNER meeting of the Managing Committee of the Technical Section was held in Pittsburgh, Pa., at the Hotel William Penn, April 4, with the following members present:

J. A. Perry, chairman; O. S. Hagerman, vice-chairman; Fred Denig, D. P. Hartson, A. C. Fieldner, F. A. Lydecker (representing J. G. O'Keeffe), R. G. Griswold, E. A. Munyan, C. A. Schlegel, G. Smith (representing C. H. B. Chapin), P. A. Stover, F. C. Weber, L. J. Willien, H. W. Hartman, secretary.

By invitation—C. A. Harrison, P. E. Eddy and E. J. Murphy, committee chairmen; R. M. Conner, A. G. A. Testing Laboratory and H. O. Andrew.

The following action was taken with regard to committee activities for the remainder of the year;

Pipe Joints Subcommittee

It was indicated, in addition to the progress reports submitted at the Distribution Conference, the A. G. A. Laboratory will be requested to prepare a set of standard specifications for testing mechanical pipe joints and bell clamp joints which will be submitted to the Distribution Committee for approval. If finally approved as a standard according to the A. G. A. procedure, it will be proposed that any mechanical pipe joints or bell clamp joints which may be submitted for test will be tested in accordance with such specifications.

Subcommittee on Pipe Coatings and Corrosion

In addition to the fine report submitted by this committee in connection with the last set of samples removed from the ground, an active program for the balance of the year is being planned along the lines of making the research work at the Bureau of Standards and the services of the Research Associate of as much practical value to member companies as possible. An itinerary is being worked out for Dr. Ewing, which will enable him to make maximum field inspections of pipe in various parts of the country which is being exposed for the purposes of repair, etc.

The committee is also considering further Laboratory work for Dr. Ewing, all of which will form the basis of a report to the Fall Convention.

Chemical Committee

E. J. Murphy reported that for the present year the committee had operated with a minimum number of subcommittees; one on Analysis and Tests, and the other to take care of New Developments.

The work of the Subcommittee on Analysis and Tests has consisted largely of work on the revision of the Gas Chemists' Handbook, which it is planned to publish in pamphlet form, the first pamphlet to be concerned with the subject of sampling and analysis of gases, including all kinds of gases. C. G. Segeler,

of Headquarters' Staff, has been appointed as editor of the first volume, and he is now working in cooperation with the Subcommittee Chairman on Analysis and Tests.

The Subcommittee on Analysis and Tests, for its report at the Convention, will also handle the subject of the best methods for determining moisture in gas; also dust in gas, as suggested at the last Managing Committee meeting in Cleveland.

The Subcommittee on New Developments is expected to take care of new scientific developments that originated since the last report on this subject. M. C. K. Jones is acting as chairman of this latter subject.

Gas Production Committee

P. E. Eddy, chairman of the Gas Production Committee, reported good progress in the various divisions of the work undertaken this year.

R. E. Kruger, chairman of the Subcommittee on Coke, is gathering data on the handling of coke, including methods of making coke dustless.

The Carbonization and By-Products Subcommittee, under the chairmanship of C. R. Locke, has been working on the subject of mixture of natural gas and producer gas.

The Subcommittee on Water Gas, of which L. J. Eck is chairman, reported comprehensive program, the principal effort of which will be to develop full information with regard to the production of high B.t.u. gas for the purpose of supplementing supplies of natural gas or taking care of peak loads.

Mr. Eddy further reported that C. I. Tenney, chairman of the Builders' Section, had written to the various members of the individual companies in the Builders' Section, and hopes to have this division of the report well-in-hand at an early date.

Technical Section Sessions at the Convention

J. A. Perry reported the appointment of the following Program Committee to provide material for the sessions of the Technical Section at the September Convention:

J. A. Perry, chairman, The United Gas Improvement Co., Philadelphia, Pa.; O. S. Hagerman, American Light & Traction Co., Chicago, Ill.; R. G. Griswold, H. L. Doherty & Co., New York, N. Y.; I. K. Peck, Boston Consolidated Gas Co., Boston, Mass.; F. C. Weber, The Brooklyn Union Gas Co., Brooklyn, N. Y.; L. J. Willien, Byllesby Engineering & Management Corp., Chicago, Ill.

While it was indicated that a certain amount of material will be available for presentation on behalf of the committees, a strong effort is being made to develop outstanding papers for presentation at the Convention which will be of such a caliber as to make them available material for the Beal Medal. Members of the Technical Section desiring to compete for the

Beal Medal should write to the secretary of the Section at Headquarters for a copy of this circular.

It was brought out that a final report on the research work conducted jointly with the Bureau of Mines under the supervision of the Committee on Survey of Gas and Coke Making Properties of American Coals would undoubtedly be available by the time of the Convention, and Mr. Fieldner reported that Mr. Haug and his committee were actively cooperating with representatives of the Bureau on the preparation of material for this report.

The committee also gave consideration to the possibility of having presentations made by technical members of the delegation from abroad.

Pipe Joints Committee Meeting

A DINNER meeting of the Subcommittee on Pipe Joints was held at the William Penn Hotel, Pittsburgh, Pa., Monday, April 3, with the following members present: Erick Larson, chairman; J. A. Perry, chairman, Technical Section; O. S. Hagerman, vice-chairman, Technical Section; C. A. Harrison, chairman, Distribution Committee; G. R. Locke, H. R. Cook, H. W. Battin, H. L. Peden (representing C. C. Simpson); R. H. Conner, K. R. Knapp, E. B. Jones, A. G. A. Testing Laboratory.

By invitation—G. H. Boyd, J. H. Braine, F. M. Goodwin, R. G. Griswold, F. A. Lydecker, M. I. Mix, C. H. Stevick.

The first part of the meeting was concerned with the complete description by R. M. Conner of the principles involved in the weld test meter developed by the A. G. A. Laboratory and exhibited at the Distribution Conference in conjunction with a meter designed for the same purpose by the Ferrous Magnetic Company.

The following subcommittee was appointed to give full consideration to the progress made to date in the development of the A. G. A. Laboratory meter, and submit recommendations to the main Distribution Committee as to the desirability of requesting a further appropriation for continuing this development work:

M. I. Mix, The Peoples Gas Light & Coke Co., Chicago, Ill.; G. R. Locke, Continental Construction Co., Chicago, Ill.; F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass.; O. S. Hagerman, American Light & Traction Co., Chicago, Ill.; H. W. Battin, The United Gas Improvement Co., Philadelphia, Pa.

With regard to the report on Mechanical Pipe Joints which had been prepared by the Laboratory under an appropriation secured through the Cast Iron Pipe Research Association, the committee discussed the results of this work with a view to determining what action should be taken on the report and what further work might be recommended for prosecution on this subject.

It was decided the next step to be taken

as a result of this work would be to request the A. G. A. Laboratory to prepare for approval a set of specifications for testing mechanical pipe joints. These will be considered by the Pipe Joints Committee, and the Distribution Committee as a whole, before recommending them as a standard to the Managing Committee.

While considerable discussion was had as to various aspects of the research work, including testing of bolts, loads on glands, etc., no definite decision was reached until the committee could have a further opportunity of studying the report as submitted by the Laboratory.

Distribution Committee Meeting

A MEETING of the main Distribution Committee was held at the William Penn Hotel, Pittsburgh, Pa., on Tuesday, April 4, at 12:00 noon, with the following members present:

C. A. Harrison, chairman; H. W. Battin, vice-chairman; J. A. Perry, chairman, Technical Section; O. S. Hagerman, vice-chairman, Technical Section; Geo. H. Boyd, J. H. Braine, F. M. Goodwin, Erick Larson, F. A. Lydecker, E. A. Munyan, H. L. Peden (representing C. C. Simpson), M. I. Mix, H. W. Hartman, secretary.

By invitation—T. Goodwin.

H. W. Battin of the United Gas Improvement Company, vice-chairman of the Distribution Committee, was appointed

Toronto Entertains A.G.A. Accounting Committees

(Continued from page 251)

The chairman indicated that the report to the Convention would include the following items:

1. Report of Accounting Machines Committee.
 - (a) Summarization of Report.
 - (b) Developments.
 - (c) Fundamental Charts.
2. "Wrinkles."
3. Bill Printing Costs.

The Fundamental Feature Charts, setting forth the details relating to various classes of accounting machine equipment, were reviewed by the Committee. Some discussion developed regarding the number of cross-footers on various types of bookkeeping equipment. The chairman outlined the reasons advanced by various machine companies for indicating the number of cross-footers credited to their particular machines. He further advised that a final check on this particular item would be made by the Chicago University Student Body before the report goes to the printer. All "wrinkles" accumulated by the Committee were reviewed and carefully rated as to their importance. This classification will be used by the Chairman in determining the contents of the final "Wrinkles" report.

chairman of the Program Committee to lay plans for the 1934 Distribution Conference. Members were invited to discuss for Mr. Battin's benefit subjects which they felt should be included in the next Distribution Conference as well as any special arrangements for presenting subjects that might have been suggested as a result of the last Conference.

Among suggestions made was that at least two sessions of the next Conference be devoted to the subject of economies achieved in Distribution Departments, classifying the presentations in accordance with the distribution account numbers in the Uniform Classification of Accounts. It was the consensus of opinion that this method of accentuating the necessity for reducing distribution costs should prove most helpful in making the next Distribution Conference a constructive contribution to the industry.

The remainder of the meeting was devoted to a full discussion of the material to be presented on behalf of the Distribution Committee at the 1933 Convention in Chicago. It was felt that this might take the form of a general presentation on behalf of the chairman of the committee which would embrace all of the work assigned to the various subcommittees and leaving for separate presentation only such material as might be developed through the few research projects at present under the jurisdiction of the committee.

With regard to Bill Printing Costs, it was agreed that the committee should present a report setting forth the difference between the cost of addressing and bill printing of gas service bills through the use of mechanical equipment, as compared with the cost of printing bills through an outside source. If possible the report will also embrace a chart setting forth the point at which it is considered more economical for a utility company to purchase this type of equipment.

The Purging of Holders

Procedure recommended by the American Gas Association for purging and placing gas holders into service or removing them from service has been incorporated in a new report to supersede a similar publication which was approved by the Executive Board nearly four years ago—October 14, 1929. It is believed that the report presents the best knowledge and the broadest experience in such operations available at the present time and that the adoption of the recommended procedure will be to the advantage of the industry. A copy may be secured by accredited delegates of member companies upon application to the Managing Director, American Gas Association, 420 Lexington Avenue, New York, N. Y.

Monthly Summary of Gas Company Statistics

FOR MONTH OF MARCH, 1933

Issued May, 1933, by the Statistical Department of the American Gas Association
420 Lexington Avenue, New York, N. Y.

PAUL RYAN, Statistician

COMPARATIVE DATA ON THE MANUFACTURED AND NATURAL GAS INDUSTRY FOR THE MONTH OF MARCH

	Month of March			Three Months Ending March 31		
	1933	1932	Per cent Change	1933	1932	Per cent Change
Customers						
Domestic (Including House Heating).....	14,352,900	14,928,500	— 3.9	<i>See March</i>		
Industrial and Commercial.....	969,700	990,700	— 2.1			
Total	15,322,600	15,919,200	— 3.7			
Revenue (Dollars)						
Domestic (Including House Heating).....	46,917,000	52,283,900	—10.3	148,734,800	159,928,900	— 7.0
Industrial and Commercial.....	16,450,300	18,995,100	—13.4	51,437,600	56,996,500	— 9.8
Total	63,367,300	71,279,000	—11.1	200,172,400	216,925,400	— 7.7

COMPARATIVE DATA ON THE MANUFACTURED GAS INDUSTRY FOR THE MONTH OF MARCH

Customers						
Domestic	9,305,400	9,759,800	— 4.7	<i>See March</i>		
House Heating	61,300	59,000	+ 3.9			
Industrial and Commercial	477,600	494,300	— 3.4			
Miscellaneous	8,700	7,500	—			
Total	9,853,000	10,320,600	— 4.5			
Gas Sales (MCF)						
Domestic	20,821,000	23,042,800	— 9.6	63,471,700	68,893,800	— 7.9
House Heating	3,215,900	3,527,300	— 8.8	10,035,500	10,073,500	— 0.4
Industrial and Commercial	6,438,100	7,639,500	—15.7	19,876,600	22,780,300	—12.7
Miscellaneous	179,500	182,400	—	543,900	572,400	—
Total	30,654,500	34,392,000	—10.9	93,927,700	102,320,000	— 8.2
Revenue (Dollars)						
Domestic	24,550,800	27,420,300	—10.5	75,087,400	82,326,000	— 8.8
House Heating	2,165,700	2,587,900	—16.3	6,746,700	7,435,000	— 9.3
Industrial and Commercial	5,667,300	6,799,900	—16.7	17,453,600	20,247,800	—13.8
Miscellaneous	125,500	125,900	—	381,800	381,500	—
Total	32,509,300	36,934,000	—12.0	99,669,500	110,390,300	— 9.7

COMPARATIVE DATA ON THE NATURAL GAS INDUSTRY FOR THE MONTH OF MARCH

Customers						
Domestic (Including House Heating).....	4,986,200	5,109,700	— 2.4	<i>See March</i>		
Commercial	462,300	466,900	— 1.0			
Industrial	14,700	14,800	— 0.7			
Main Line Industrial	4,700	5,200	— 9.6			
Miscellaneous	1,700	2,000	—			
Total	5,469,600	5,598,600	— 2.3			
Gas Sales (MCF)						
Domestic (Including House Heating).....	33,152,600	36,617,700	— 9.5	108,627,400	113,075,700	— 3.9
Commercial	10,157,100	11,238,200	— 9.6	32,483,600	32,319,500	+ 0.8
Industrial	25,805,200	29,818,500	—13.5	80,313,600	86,867,100	— 7.5
Main Line Industrial	10,398,800	7,249,400	—	32,677,300	28,720,100	—
Miscellaneous	775,200	1,053,300	—	2,495,900	2,841,200	—
Total	80,288,900	85,977,100	— 6.6	256,597,800	263,823,600	— 2.7
Revenue (Dollars)						
Domestic (Including House Heating).....	20,200,500	22,275,700	— 9.3	66,900,700	70,167,900	— 4.7
Commercial	4,490,300	4,942,700	— 9.2	14,203,900	14,407,200	— 1.4
Industrial	4,802,700	6,015,300	—20.2	15,320,300	17,981,000	—14.8
Main Line Industrial	1,236,900	926,200	—	3,623,000	3,479,800	—
Miscellaneous	127,600	185,100	—	455,000	499,200	—
Total	30,858,000	34,345,000	—10.2	100,502,900	106,535,100	— 5.7

Gas Utility Revenues Decline Sharply in March

REVENUES of the manufactured and natural gas industry aggregated \$63,367,300 for March, 1933, as compared with \$71,279,000 for March, 1932, a decline of 11.1 per cent.

The manufactured gas industry reported revenues of \$32,509,300 for the month, a drop of 12 per cent from a year ago, while revenues of the natural gas industry totalled \$30,858,000 or 10.2 per cent less than for March, 1932.

Sales of manufactured gas reported for March totalled 30,654,500,000 cu.ft., a decline of 10.9 per cent, while natural gas sales for the month were 80,288,900,000 cu.ft., a drop of 6.6 per cent.

While this represents the most pronounced loss sustained by the gas industry in any one month since the onset of the current depression, it must be remembered that trade and industry in general reached new low levels of activity in March. In addition, comparisons with March, 1932, were unfavorably influenced by the fact that in that month the industry experienced much less than the usual seasonal recession. For example, manufactured gas revenues usually decline about 3 per cent from February to March. In 1932, however, instead of the normal seasonal decline, there was an increase of 3 per cent in revenues for March over February, with the result that comparison between March, 1933 and 1932 indicated greater losses than would normally have been experienced.

Somewhat the same trend was indicated for the other data on the industry, although in the case of natural gas sales and revenues it was somewhat obscured by the relatively greater seasonal movement characterizing this phase of the gas business.

New York Employees Recognized for Heroic Deeds

(Continued from page 246)

and Power Company, assisted the fire department materially and installed temporary lights at the disastrous fire and explosion in the basement of the Ritz Tower, when five were killed and forty injured.

P. J. Hartney, of the Consolidated Gas Company, descended into a subway tunnel and carried out two men overcome by an unknown gas. After carrying one victim a distance of three hundred feet, he was forced to climb a twenty-five foot ladder with his burden.

Charles Levins, of The United Electric Light and Power Company, rescued a woman from a burning building. A. B. Nicholson, of the

same company, grasped the reins of a runaway horse and halted him before anyone was injured. H. C. Smoker, of The Bronx Gas and Electric Company, also stopped a runaway horse after being dragged more than sixty feet.

Joseph Zipf, of The Astoria Light, Heat, and Power Company, prevented serious damage to equipment and the service when a cylinder head blew off a pumping station engine. With broken parts falling about, he disregarded the danger and shut down the machine. Walter Bergmann, of The New York Edison Company, extinguished the flames when a stage curtain caught fire, preventing serious damage and possible injury to three thousand persons.

J. J. O'Leary, of The New York Edison Company, broke into a burning building at 1:30 A. M. to rescue a woman overcome by smoke.

William Smith, of The New York and Queens Electric Light and Power Company, twice entered a gas-filled manhole to rescue fellow workers overcome by fumes.

Forty-eight Bronze Meritorious Service Medals and twenty-six Honorable Mention Certificates were awarded for the successful application of the prone pressure method, the prevention of damage to property, and administration of first aid to persons critically injured and in distress, rescue from drowning, and prevention of robbery.

Presentations of McCarter Medals and Certificates were made to the following employees by Colonel Oscar H. Fogg, vice-president: George J. Treanor, Matthew Farrell, Cornelius Shea, Andrew Harrison, Frank E. Retus, John C. MacDonald and Nicholas J. Redden.

McCarter Medals and certificates were presented to Joseph Polizoto and Louis Kistner by W. Cullen Morris, vice president and chief engineer.

William Webb, of the New York and Queens Gas Company, was the recipient of a McCarter Medal and Certificate at a meeting in his honor. M. H. Spear, president of the company, made the presentation.

J. J. Beisiegel, assistant to the vice-president, presented McCarter awards to the following employees:

Henry W. Scheller, Central Union Gas Company; William McCluskey and William Daller of the Northern Union Gas Company. Joseph Mulligan of the Northern Union Gas Company was also awarded a medal and certificate but it has not yet been presented.

Fred Galvin and Edward Lalor, Northern Union Gas Company, were presented with medals and certificates at a safety meeting. The presentation was made by D. W. Napier, superintendent.

John J. Condren, Northern Union Gas Company, received a McCarter Medal and Certificate from W. J. MacDaniels, treasurer and manager.

Large Volume Water Heating As Summer Load

(Continued from page 234)

is essential but the "salesman" is the ace in the hole.

Terms—For old buildings and replacements the subject of terms is all important. Every sale means replacement or obsolescence of existent equipment representing a considerable investment, by equipment which is still more costly. When it is considered that the customer is inclined to be skeptical of the use of gas, it can readily be seen how difficult it is to get his name on the dotted line, any considerable cash outlay, or for capital investment. Every successful installation, however, makes the next one just that much easier, so that special promotional terms must be made which can be temporary in character. Once gas for large volume water heating has been permanently justified in the public mind, special introductory terms or practices can be dispensed with.

The sacrifice of efficiency by installation of low-priced equipment, merely because the customer is unwilling to pay for the best, is one of the surest ways of defeating the entire program, so that any plan which does not take into consideration the financing of such equipment cannot be successful.

The business is there, it is new business, and it can be secured by co-ordinated, intensive, intelligent installation of high efficient equipment.

Associations Affiliated with A. G. A.

Canadian Gas Association

Pres.—Hugh McNair, Winnipeg Electric Co., Winnipeg, Man.
Sec.-Tr.—G. W. Allen, 21 Astley Avenue, Toronto.

Empire State Gas and Electric Association

Pres.—Alfred H. Schoellkopf, Niagara Hudson Power Corp., Buffalo, N. Y.
Chairman, Gas Section—A. M. Beebee, Rochester Gas & Electric Corp., Rochester, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.

Illinois Public Utilities Association

Pres.—Bernard J. Mullaney, The Peoples Gas Light & Coke Company, Chicago, Ill.
Sec.—J. R. Blackhall, Suite 1213, 79 West Monroe St., Chicago, Ill.

Indiana Gas Association

Pres.—R. S. Brunner, Indiana Gas Utilities Co., Richmond, Ind.
Sec.-Tr.—P. A. McLeod, New Castle, Ind.

Michigan Gas Association

Pres.—J. E. Spindle, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Maryland Utilities Association

Pres.—F. A. Mitchell, Eastern Shore Public Service Co., Salisbury, Md.
Sec.—D. E. Kinnear, 803 Court Square Bldg., Baltimore, Md.

Mid-West Gas Association

Pres.—R. L. Klar, Des Moines Gas Co., Des Moines, Iowa.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

Missouri Association of Public Utilities

Pres.—Fred Karr, St. Joseph Gas Co., St. Joseph, Mo.
Sec.-Tr.—N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

New England Gas Association

Pres.—H. R. Sterrett, New Haven Gas Light Co., New Haven, Conn.

Vice-Pres.—F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass.

Second Vice-Pres.—R. H. Knowlton, The Connecticut Light & Power Co., Hartford, Conn.

Treas.—F. D. Cadwallader, Boston Consolidated Gas Co., Boston, Mass.

Exec. Sec.—Clark Belden, 41 Mt. Vernon St., Boston, Mass.

Chairman, Operating Div.—P. R. Buchanan, Hartford Gas Co., Hartford, Conn.

Sec.-Tr., Operating Div.—D. R. Campbell, Portland Gas Light Co., Portland, Me.

Chairman, Sales Div.—H. B. Hall, Old Colony Gas Co., East Braintree, Mass.

Sec.-Tr., Sales Div.—R. J. Rutherford, Cambridge Gas Light Co., Cambridge, Mass.

Chairman, Industrial Div.—P. A. Nelles, Charles H. Tenney & Co., Boston, Mass.

Sec.-Tr., Industrial Div.—S. F. Morgan, New Bedford Gas & Edison Lt. Co., New Bedford, Mass.

Chairman, Accounting Div.—Leland Balch, Lowell Gas Light Co., Lowell, Mass.

Sec.-Tr., Accounting Div.—C. D. Perkins, Malden & Melrose Gas Light Co., Malden, Mass.

Chairman, Manufacturers Div.—C. H. Cummings, Industrial Appliance Co. of N. E., Boston, Mass.

Sec.-Tr., Manufacturers Div.—J. H. McPherson, James B. Clow & Sons, Boston, Mass.

New Jersey Gas Association

Pres.—F. A. Lydecker, Public Service Electric and Gas Co., Newark, N. J.

Sec.-Tr.—G. B. Webber, Public Service Electric and Gas Co., Newark, N. J.

Ohio Gas and Oil Men's Association

Pres.—L. K. Langdon, Union Gas & Electric Co., Cincinnati, Ohio.

Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, Ohio.

Oklahoma Utilities Association

Pres.—R. J. Benzel, Southwestern Bell Telephone Co., Oklahoma City, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.

Pacific Coast Gas Association

Pres.—Harry L. Masser, Los Angeles Gas and Electric Corp., Los Angeles, Calif.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

Pennsylvania Gas Association

Pres.—F. M. Milward Oliver, The Philadelphia Gas Works Co., Philadelphia, Pa.
Sec.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

Pennsylvania Natural Gas Men's Association

Pres.—J. French Robinson, Lycoming Natural Gas Co., Pittsburgh, Pa.
Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.

Southern Gas Association

Pres.—J. J. Brennan, Memphis Power & Light Co., Memphis, Tenn.
Sec.-Tr.—S. L. Drumm, New Orleans Public Service Inc., New Orleans, La.

Southwestern Public Service Association

Pres.—Knox Lee, Southwestern Gas & Electric Co., Marshall, Texas.
Sec.—E. N. Willis, 1801 No. Lamar St., Dallas, Texas.

The Public Utilities Association of Virginia

Pres.—T. Justin Moore, Va. Elec. & Power Co., Richmond, Va.

Wisconsin Utilities Association

Pres.—E. J. Steinberg, The Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Exec. Sec.—J. N. Cadby, 135 West Wells St., Milwaukee, Wis.

International Gas Conference
AND
Fifteenth Annual Convention
of the American Gas Association

Chicago, Ill.
Week of
September 25, 1933

Personnel Service

SERVICES OFFERED

Sales manager—engineer thoroughly experienced manufactured, natural gas, and combination company sales promotion, merchandising, rate, publicity and utilization activities wishes connection with utility or manufacturer where more than nineteen years' training can be used to advantage as assistant to busy executive. 711.

Manufacturing executive. Young, aggressive, reliable, graduate mechanical and industrial engineer. Experienced in production, development, design and sales. Radio, electrical, automobile accessory, air conditioning, heating and ventilating industry associations. Now connected with manufacturer as gas furnace sales manager. Especially adaptable to installation and supervision of scientific management methods of manufacture. 714.

Public relations. Fifteen years' experience in advertising and public utility field. Customer contact, employee education, coordination of advertising policy, appliance merchandising and dealer cooperative advertising. Experienced in trade relation problems, utility association procedure, and industry cooperative merchandising plans. 715.

Experienced sales representative has valuable background of association with two important gas corporations. Has secured many unusual sales records and is thoroughly versed in appliance manufacturing as well as sales. Here is opportunity to connect with associate who can give not only loyal service but has exceptional business-getting capacity. 716.

Manager and Operating engineer experienced in production, distribution and sale of manufactured, natural and mixed gases and in the holding company's methods of control over operating of subsidiaries. In position to go anywhere for permanent or temporary employment. 717.

Budget director. Executive, engineering training, fifteen years' experience management gas and electric companies, qualified supervisory preparation, operation, control of budgets. With practical background all branches gas electric industry, understanding financial requirements, able secure coordinated perspective for construction, operating and financial budgets. Can analyze costs, prepare explanatory reports on actual operations. 719.

A gas house heating sales engineer with eight years' experience in the gas heating and industrial gas fields would like to locate with a gas company; services are available immediately. 720.

Practical gas distribution man (40) married, varied construction and sales experience, desires employment with organization offering future to one who is energetic and ambitious. Expects compensation commensurate with his accomplishments and the satisfactory results he knows he can obtain. 721.

Sales director available for gas range manufacturer seeking wider markets. Advertiser has valuable contacts among all important gas range outlets, especially eastern territory. A successful record of sales and sales administration, backed by wide experience in manufacturing and general management insures accomplishments. Full particulars on file with Personnel Service. 722.

Civil Engineer available for work anywhere in the United States. Recently superintendent on welded pipe line construction for New York company. Gas distribution systems, butane plants, consultant on pipe coatings and special pipe protection. River crossings a specialty. Age thirty-three. Married. 723.

Sales and merchandise manager, with fullest appreciation of utilities' "public relations" problems. Familiar floor and house-to-house sales; also employees' campaigns; and profitable use of home economics department. Successful organizer. Trained on plan, copy, display—both in major and smaller household appliance. Complete details on request. 724.

Heating Engineer. Twelve years' experience, heating, ventilating, and plumbing engineering; designing, specifications and supervision. Industrial, commercial, school and residential air conditioning. College Graduate and licensed engineer New York and New Jersey. 725.

SERVICES OFFERED

Engineering graduate (1928, leading university). Will receive M.S. degree in Mech. Engr. (gas major) in June. Four years of varied experience on maintenance and operation of city plants of large utility. Married; age 29. 726.

Accountant (28) last two and one-half years large combination gas and electric company handling all phases of public utility accounting; previously three years on public utility staff of C. P. A. organization. University graduate, majored in accounting. 727.

Contact man for manufacturer of gas equipment, or gas company, experienced in gas heating engineering and sales, both natural and manufactured gas. Can organize department and train men. 728.

Management or process development work wanted. Have had responsible charge of large successful operating organizations. Particularly experienced in by-product coke, tar refining, and research. 729.

Gas engineer qualified for company management or supervision of operating procedure; practical specialist in high and low temperature carbonization including preliminary research. First class technical background with extensive operating and managerial experience. As plant results engineer for large property or holding company, could secure and maintain maximum efficiency with present equipment. 730.

Sales Executive: exceptional background, innumerable contacts, successful record merchandising gas, electric domestic, industrial service, appliances, training, and handling salesmen, advertising publicity, cost analyses, rate designing, public relations and general sales promotion; widely traveled expert negotiator, convincing personality, aggressive, tactful, creative, resourceful; can quickly visualize any situation and develop possibilities. 731.

Qualifications arising out of eighteen years' broad auditing and accounting experience in varied lines including five years, large combination property, plus special courses in accountancy, at disposal of manufacturer of gas and electric equipment or gas and electric corporation. Public work has rounded out customary utility experience thus creating a more valuable asset. 732.

Wanted to make connection as Manufacturers Agent, or with sales office, of concern manufacturing cast iron pipe and etc., or kindred lines such as valves or similar appliances. Can furnish record and details of past experience in these lines. 733.

Salesman—appliances. American. Keen merchandiser. Ten years' experience contacting public utilities, manufacturers, department and chain stores, real estate organizations, jobbers and retailers. Familiar sales promotion and missionary work and sales crews, house to house campaigns. (29) Single. Living Salary. 734.

Technical graduate, 1931, single, specialized in gas and chemical engineering, with experience in several industrial concerns, also in testing heating equipment at university experiment station, interested in development and experimental work, willing to go anywhere and to consider any position regardless of salary; now in the East. 735.

Civil and Gas Engineer. Experience covers design and construction of over one thousand miles of natural gas pipe lines; forty city distribution systems; six natural gas compressor stations aggregating ten thousand horse power. Good geologist and map maker. Executive experience, twelve years' chief engineer, five land agent, two purchasing agent. 736.

Seven years' new business manager of manufactured gas plant of 15,000 meters and three years' manager of natural gas property of 3,000 meters. Specialized training in gas heating. Would like to make a connection with a gas utility in supervisory or executive capacity; age 42. 737.

Can you use an experienced house heating salesman with recent successful sales record? Familiar with West and middle West problems; competent in both natural and manufactured gas utilization. Services available immediately. 738.

SERVICES OFFERED

Manager, manufactured and natural gas and electricity. Experienced in new business, distribution and development of new territory. Can reestablish run-down properties and improve public relations. 739.

Domestic coke service man (35) technically trained. Thoroughly experienced in burning coke in small and medium sized furnaces, with background of research and position with one of the largest producers of domestic coke. Capable of handling service and customer contact department of a company; experienced in coke production and sales. 740.

Gas engineer with wide experience in all departments of manufactured and natural gas business—construction production, distribution, sales and appraisal—also knowledge of sale and handling of by-products and having executive experience, desires connection as manager, superintendent or gas engineer with holding company. Could handle combination gas and electric company. 741.

Gas engineer (B.S., Chemical Engineering). Eight years' experience in operation of gas plants and by-product coke plants. Wide experience in development of new processes, design and construction of equipment and patent prosecution covering all phases of the gas industry. Desire responsible position in operating or engineering department. 742.

Engineer (M.E.) with seven years' practical experience as engineer and superintendent all departments (water gas, coal gas and natural gas operation) starting as cadet, desires position in engineering or operating capacity. Two years' experience with heavy oil. Single (30) willing to go anywhere United States or foreign service. 743.

POSITIONS OPEN

Nationally known manufacturer of water heaters has available territory open. Would like applicants to forward qualifications, experience, etc. relative to same. 0256.

Appliance salesmen preferably with utility experience, for new self-contained cooking device for restaurants, lunch rooms, soda fountains, road stands, etc. Desirable openings available in practically every State. Could easily be carried with other lines; commission basis. 0257.

THE GREAT REVIVAL

Increased business necessarily means increased demands; they in their turn imply additional personnel. We have, or can readily secure, names and qualifications of capable and experienced individuals to fill any requirement. Advertisements, confidential classification records and one *Positions Open* notice (without charge and in entire confidence) will promptly produce many first-class candidates with manufactured or natural gas experience. Here is a partial list:

Coal gas and water gas operators; plant and distribution superintendents; accountants and office workers; draftsmen, designers and construction engineers; appliance salesmen and salesmen of gas for domestic, commercial and industrial utilization, as well as executives of all types.

Consider your needs, consider those who are available and command our help.

Advisory Council

E. R. ACKER.....	Poughkeepsie, N. Y.
H. E. BATES.....	Chicago, Ill.
J. M. BENNETT.....	Philadelphia, Pa.
J. I. BLANCHFIELD.....	Brooklyn, N. Y.
R. B. BROWN.....	Milwaukee, Wis.
D. W. CHAPMAN.....	Chicago, Ill.
C. M. COHN.....	Baltimore, Md.
J. L. CONOVER.....	Newark, N. J.
H. C. COOPER.....	Pittsburgh, Pa.
J. D. CREVELING.....	New York, N. Y.
F. G. CURFMAN.....	New York, N. Y.
E. S. DICKEY.....	Baltimore, Md.
WM. A. DOERING.....	Boston, Mass.
E. FRANK GARDINER.....	Chicago, Ill.
R. G. GRISWOLD.....	New York, N. Y.
W. H. HODGE.....	Chicago, Ill.
R. C. HOFFMAN, JR.....	Roanoke, Va.
D. F. KAHN.....	Hamilton, Ohio
G. M. KARSHNER.....	Chatham, N. J.
J. B. KLUMPP.....	Philadelphia, Pa.
C. C. KRAUSSE.....	Baltimore, Md.
J. P. LEINROTH.....	Newark, N. J.
A. B. MACBETH.....	Los Angeles, Cal.
D. M. MACKIE.....	Jackson, Mich.
T. N. McCARTER.....	Newark, N. J.
S. W. MEALS.....	Pittsburgh, Pa.
W. F. MILLER.....	Chicago, Ill.
H. C. MORRIS.....	Dallas, Texas
F. H. PATTERSON.....	Rochester, N. Y.
F. H. PAYNE.....	Erie, Pa.
I. K. PECK.....	Boston, Mass.
A. E. PEIRCE.....	Baltimore, Md.
B. V. PFEIFFER.....	Philadelphia, Pa.
C. R. PRICHARD.....	Lynn, Mass.
H. S. SCHUTT.....	Philadelphia, Pa.
ARTHUR STOCKSTROM.....	St. Louis, Mo.
T. J. STRICKLER.....	Kansas City, Mo.
H. LEIGH WHITELAW.....	New York, N. Y.
GEORGE E. WHITWELL.....	Philadelphia, Pa.

AMERICAN GAS ASSOCIATION, INC.

HEADQUARTERS, 420 LEXINGTON AVE., NEW YORK, N. Y.

Officers and Directors

President	ARTHUR HEWITT.....	Toronto, Ontario
Vice-President	N. C. McGOWEN.....	Houston, Texas
Vice-President	HOWARD BRUCE.....	Baltimore, Md.
Treasurer	WILLIAM J. WELSH.....	Staten Island, N. Y.
Managing Director	ALEXANDER FORWARD.....	New York, N. Y.
Assistant Manager	H. W. HARTMAN.....	New York, N. Y.
Secretary	K. R. BOYES.....	New York, N. Y.
Departmental Vice-Pres.	GEORGE W. RATCLIFFE.....	Pittsburgh, Pa.
Sectional Vice-Pres.	J. C. BARNES.....	New Orleans, La.
Sectional Vice-Pres.	J. M. ROBERTS.....	Chicago, Ill.
Sectional Vice-Pres.	E. L. WILDER.....	New York, N. Y.
Sectional Vice-Pres.	D. B. STOKES.....	Burlington, N. J.
Sectional Vice-Pres.	J. A. PERRY.....	Philadelphia, Pa.
Sectional Vice-Pres.	WALTER C. BECKJORD.....	Boston, Mass.

H. C. ABELL.....	New Orleans, La.	R. W. GALLAGHER.....	Cleveland, Ohio
H. O. CASTER.....	New York, N. Y.	CONRAD N. LAUER.....	Philadelphia, Pa.
J. S. DeHART, Jr.....	Newark, N. J.	F. A. LEMKE.....	Kalamazoo, Mich.
B. J. DENMAN.....	Chicago, Ill.	FRED A. MILLER.....	Bradford, Pa.
HENRY L. DOHERTY.....	New York, N. Y.	B. J. MULLANEY.....	Chicago, Ill.
O. H. FOGG.....	New York, N. Y.	C. E. PAIGE.....	Brooklyn, N. Y.
F. C. FREEMAN.....	Providence, R. I.	HERMAN RUSSELL.....	Rochester, N. Y.
JOHN A. FRY.....	Detroit, Mich.	F. S. WADE.....	Los Angeles, Calif.
SAMUEL INSULL, Jr.....	Chicago, Ill.	T. R. WEYMOUTH.....	New York, N. Y.
P. S. YOUNG.....	Newark, N. J.		

Section and Department Officers

NATURAL GAS—Chairman.....	GEO. W. RATCLIFFE.....	Pittsburgh, Pa.
Vice-Chairman	F. L. CHASE.....	Dallas, Texas
Secretary	A. E. HIGGINS.....	Dallas, Texas
ACCOUNTING—Chairman	J. M. ROBERTS.....	Chicago, Ill.
Vice-Chairman	E. B. NUTT.....	Pittsburgh, Pa.
Secretary	H. W. HARTMAN.....	New York, N. Y.
COMMERCIAL—Chairman	WALTER C. BECKJORD.....	Boston, Mass.
Vice-Chairman	N. T. SELLMAN.....	New York, N. Y.
Secretary	J. W. WEST, Jr.....	New York, N. Y.
INDUSTRIAL GAS—Chairman.....	E. L. WILDER.....	New York, N. Y.
Vice-Chairman	F. B. JONES.....	Pittsburgh, Pa.
Secretary	C. W. BERGHORN.....	New York, N. Y.
MANUFACTURERS'—Chairman	D. B. STOKES.....	Burlington, N. J.
Vice-Chairman	J. A. FRY.....	Detroit, Mich.
Vice-Chairman	M. N. DAVIS.....	Bradford, Pa.
Secretary	C. W. BERGHORN.....	New York, N. Y.
PUBLICITY AND ADVERTISING		
Chairman	JAY C. BARNES.....	New Orleans, La.
Vice-Chairman	HENRY OBERMEYER.....	New York, N. Y.
Secretary	ALLYN B. TUNIS.....	New York, N. Y.
TECHNICAL—Chairman	J. A. PERRY.....	Philadelphia, Pa.
Vice-Chairman	O. S. HAGERMAN.....	Chicago, Ill.
Secretary	H. W. HARTMAN.....	New York, N. Y.

